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VOL. XXVIII.

AUG. 15, 1900.

No. 16.



On to Chicago, Aug. 28!

THE GREAT PAINS C. Russel seems to take to rear good queens, p. 611, deserves commendation. The day may come when every intelligent producer of honey will find he can not afford to rear queens without taking just such care.

I'VE TRIED Somerfield's plan of penning in nuclei with leaves to make them stay. More dead bees than desirable sometimes; still, I like the plan. It seems to work very well to free them in 24 hours; but a good feature of the plan is that, if you forget to free them, they will free themselves.

YOU ARE RIGHT, Mr. Editor, in thinking my way of wetting sections will not work with any thing but square sections, unless they are packed exactly right. But I *think* it would still be a gain to use my way, after re-packing straight. You say, "I should think there would be some grooves of some sections that you would miss." Well, you would think wrong. The boiling water runs clear through, and I never knew a groove to be missed.

THAT MAN in the picture, p. 610, ought to know better than to try to extract honey when it's so cool he can wear a coat. [In taking the picture to which you refer, I forgot to tell the man to take off his coat and assume the attitude of hard work. There is a fine art in posing a subject, and the more I study amateur photography the more I see how I sometimes miss it. The average subject seems to think he must look at the camera.—ED.]

AFTER trying the Jones plan of clipping for a time (holding the queen by the legs), I have fallen back into my old plan as easier because of long practice in it. And that old plan is precisely the one given by the editor, p. 606. [Very much depends on what we are used to; but I think the average beginner—yes, the average bee-keeper—with his clumsy and perhaps nervous fingers will do less harm

to the queen to hold her by the shoulders during the act of clipping than if he held her by the legs, which are liable to be pulled loose.—ED.]

INSTEAD of running honey directly from the extractor, it is becoming more and more the practice to run it into square tin cans, p. 621. Is it not still better practice to run it first into tanks? [I think you must misunderstand me. I did not mean to convey the impression that it was getting to be more and more the practice to run honey directly from the extractor into the square cans, but that it was getting to be more and more the practice to use square cans instead of barrels for *marketing and shipping*.—ED.]

"NEVER allow horses to enter the apiary, for the bees will rush at them and sometimes sting them to death, even at night," is advice given p. 603. Safe advice. But it's only fair to say that at my Wilson apiary for years no serious consequence has followed allowing ten or more horses and twice as many cows to be within 8 feet of the hives, with only a wire fence between, and sometimes the horses are right in the apiary. When one gets stung, it races away, rubs against a tree, then comes back again. Yet I know of a colt being stung to death on a farm where only two or three colonies of bees were kept.

THE EDITOR tells, p. 620, about hiving a stubborn swarm five times, and upon putting them in a new location with brood they stayed. The question is: Did they stay because of the new location, or because of the brood? [I should have explained that, when I hived this swarm five times, it was during my early experience with bees, for I should now know that, if it came off the second time, it would be advisable to hive it somewhere else. Referring to your question, I do not know that I can say definitely that either the brood or change of location induced the bees to stay at home; but I should assume that both had an influence, although it is probable that the latter had more to do with it.—ED.]

"WE HAVE had queens get the cramps many and many a time, especially in caging for mailing," says the editor in reply to my



statement that I never had a case of the kind. Of course, you've handled more queens than I, still I've clipped them by the hundred, yes, by the thousand, and it always has been a puzzle to me that people should say that playing dead was so common. Well, since writing that statement I've had a genuine case of playing 'possum. After being clipped, a queen lay still, wiggling one foot just a little. I thought I had hurt her, and put her back in the hive. Next time I looked she was laying all right. [Yes, it is probably true that we have handled more queens than you have in caging for the purpose of mailing. I do not know that I ever had a queen get the cramps while I was clipping; but I have often had them cramp while I was putting them through the opening into the cage.—ED.]

DOOLITTLE says, p. 617, that Carniolans do not differ in looks from black bees. I said that once, and a man mailed me a cage of bees he called Carniolans that were distinctly different from blacks—no yellow on them, but narrow white bands. [The real pure Carniolans that I have seen look slightly different from the typical black bee. At one time it was claimed that the abdomens of the former were of a steel blue, but this was a mistake. Carniolans look about like blacks, except that the fuzz-rings between the segments, or scales, are of a whiter color. The bees themselves are a trifle larger, or appear to be so. Some so-called Carniolans look very much like black bees—act like them in tumbling off the combs in general confusion as they are picked out of the hive. But we have had colonies of them in our apiary that behaved as quietly as Italians, and were just as gentle. As both races of bees came from Germany, it may be assumed that there are many crosses between the two. It is very difficult, therefore, to get pure Carniolans.—ED.]

CHALON FOWLS must take in hand Doolittle and Somnambulist. Doolittle says in *American Bee-keeper*, "My customers, for the past five years, have all called for the granulated article, nearly all of them preferring to use it in that way;" and Somnambulist says in *Progressive*, "Our home customers have reached the point where they will have naught but granulated honey." [Mr. Fowls had pretty nearly whipped me out of my advocacy of granulated honey for the general market, and I had almost come to the conclusion that he was right and I wrong. It is no little pleasure to me to see you bring such authorities as Doolittle and Somnambulist, to prove that I was at least in part right. Let's see. We have the Muths, R. C. Aikin, G. M. Doolittle, and Somnambulist, all of whom aver that candied honey is a legitimate product of the apiary, and that its consumption on the part of the general public should be encouraged. We consider that the products of the hive are wax, extracted honey, and comb honey; and the general public has come to recognize honey in the liquid form. Now, why can't we show this dear public that candied honey is just as much a legitimate product of the hive as any

of the others mentioned? If it could be convinced that such honey was pure, it would demand it, oftentimes, in preference to the other.—ED.]

THE BIG CONVENTION at Chicago, August 28—30, will be up to high-water mark or higher. Discussions are the life of a convention, and there's to be plenty of time for them. A very important part of a convention is the arrangements for eating and sleeping with reference to allowing a good chance for visiting between sessions. Editor York is a hustler, and having these arrangements in hand, he knows about what is wanted. If the Chicago stock of lightning doesn't give out, I'm sure we'll enjoy the stereopticon pictures. [Every thing is being done that can be done to make the Chicago convention a big success in every way. The stereopticon feature will be, perhaps, the most prominent. Not only the faces of bee-keepers and views of typical apiaries will be thrown on the screen, but much that has never been shown in the journals will be illustrated. I am having made to order something like 200 lantern-slides for the special use of this convention. I have just been trying my stereopticon, and I find, as was claimed by the manufacturers, that it is the equal of any single lantern made in the United States.—ED.]

THE GENERAL BELIEF has been, I think, that bees preferred to build drone comb as store comb because it took less wax to store a given amount of honey. That belief must be given up, according to Prof. Gillette's observations, which showed that it took just a fourth more wax for drone than worker comb when each was .9 of an inch thick. [Prof. Gillett's observation proves another thing; namely, that it does not follow that comb built entirely by the bees will have less of "gob" than comb built off from thin or extra thin foundation. The former will necessarily be worker; the latter, probably drone; and, if so, there will be as large a chunk of wax (gob) to the pound of comb honey eaten in the one case as in the other. If it is an advantage, therefore, to use foundation at all, in that it induces the bees to build comb faster—that is, to do more work in the sections—it would seem that it would be false economy to give the bees a narrow starter, on the mistaken assumption that the resultant comb would have the less of wax to chew in the eating. This observation of Prof. Gillette was confirmed in our own experience in our own apiary.—ED.]

LET ME SEE, Mr. Editor, if I can explain that point you say you don't get, p. 601. Advocates of square sections may talk like this: "Ye, bees build deeper than wide; but if you give them a section of just the proportion they would naturally build the comb, that is, a tall section, they will not build to the bottom. Now cut the section enough shorter to make it square, and they will do better at fastening to the bottom. In other words, their tendency to build deep must be utilized, not to get taller sections, but to get the square ones fastened to the bottom." But I prefer

bottom starters. [I think I understand your point. You say you use bottom starters, and that you would use them any way. Now, then, if the bees prefer to build their comb deeper than wide, is it not a wise policy on the part of the bee-keeper to give them a section that will cater to their inclinations? in other words, so long as it is practicable, is it not wise to follow nature by giving them a tall section, and a bottom starter, and thus catering to their natural instincts, and at the same time inviting them to make a bottom attachment? Are you sure that, by getting the section enough shorter to make it square, the bees will make a better fastening at the bottom? I do not see that the conclusion necessarily follows.—Ed.]



From brazen skies the sun pours down  
A flood of torrid heat;  
All nature pants beneath the scourge,  
The bees get little sweet.



#### AMERICAN BEE JOURNAL.

On page 370 Prof. Cook says the true stomach of the bee is larger than the honey-stomach. Mr. Hasty says this is true when both are empty; but the fact that the latter, when full, is more than half the weight of an unloaded bee makes it impossible that the real stomach should be larger than the honey-sac.



In the issue for July 26 F. Greiner has an article on crimson clover. He ranks it as one of the most desirable honey-plants in existence. He has counted on it 20 bees to the square foot, of which three out of four were gathering honey. He thinks 25 acres would keep 100 colonies busy, and says he could afford to pay 75 cents to \$1.00 for every acre sown within a mile of his place.



C. P. Dadant and daughter stopped at Dr. Mason's in Toledo while on their way to Paris. I have forgotten hitherto to congratulate the bee-keepers of the United States on having such a representative as Mr. Dadant at the coming bee-keepers' congress in Paris. Not only in his ability to speak French, but in every way, he is just the man. Mr. Dadant left his old home in France in 1863, and, I believe, has not seen it since then till now. We can well imagine his feelings on again treading what must be to him sacred ground, and in meeting as many of the "boys" as may be still living.



In the issue for July 19 Mr. J. O. Grimsley makes a vigorous defense of the National Queen-breeders' Union, and it strikes me he is about right. It seems Mr. York was rather opposed to such a union, and said: "Suppose

the supply-dealers should form a union, telling how honest they are." But Mr. Grimsley shows that the object of the association is to sift out incompetent and irresponsible breeders of queens, and to let purchasers know just what they are getting, and to enable them to get what they pay for. He adds: "It wants to benefit all, and is exactly the same class of organization as the National Bee-keepers' Association, except that it is composed exclusively of queen-breeders, and the members must be received by a vote."



Mr. Hasty says, "After a long period of valetudinarianism, intentionally consuming much sweet, and with my prejudice (if I had any) in favor of honey, you will see me eating sugar as a horse eats oats, and not much honey." If Mr. Hasty had said he eats sugar as a horse does, his case would seem hopeless. For some time he has figured as the champion honey-eater; and the cause of this sudden change in taste is not evident. Probably it is not permanent, and can be accounted for by the fact that "a cook is never hungry." May be the sight of honey constantly before a person will cause him to tire of it; but still we see sugar a hundred times where we see honey once. Mr. Hasty objects to tracing evolution so far back as to say that the apple was developed from the wild rose. He admits that both, several millions of years ago, may have come from one common parent. More likely, however, that "common parent" was Mother Earth.



Dr. Miller says he has seen sweet clover growing in places where the grass was eaten away all around it, but he has seen more places where cows had eaten the sweet clover close to the ground. He considers it a matter of education. Till recently I had lost considerable sleep over the question whether elephants would eat sweet clover or not. A few days ago a rusty specimen of that tribe was anchored in front of this establishment. Some boys gathered large wads of sweet clover, which grows in profusion everywhere here, and the huge animal ate it with as much avidity as a cow does green cornstalks. It certainly was a sight to see that clover twisted in the trunk and then stuffed in the mouth. If an elephant's trunk does not show the intelligence of its Creator, I don't know what does.

In speaking of sweet clover, and the prejudice of some farmers against it, Mr. C. W. Snyder, of Utah, says, "I had much opposition when I planted my first seed, but I planted the seed just the same. Now nearly all the farmers see the value of it." Strange that farmers will smile over acres of ragweed and prickly lettuce, and storm at the sight of sweet clover.



#### BRITISH BEE JOURNAL.

In Western Australia there is a law requiring every person who may have in his possession or under his care any colony, hive, or swarm of bees affected with foul brood or



other contagious disease to report the same to the Department of Agriculture, and take such steps for its eradication as the department may direct. The Governor is empowered to appoint one or more experts to carry the law into effect.

In 1897 there were 641,127 colonies of bees in Hungary, of which 197,382 occupied hives with movable frames, and 443,745 were in straw hives. The honey was estimated at 6,800,000 lbs., and wax 3,000,000 lbs.

The editor well says: "There can be no reasonable objection to individual bee-keepers making hives for their own use to whatever style, size, or shape they may prefer; but it forms part of our mission as editors to guide readers into the methods of management proved by experience to be best. While allowing perfect freedom for all so far as regards personal preferences, we strongly deprecate any general interference with the size or measurement of the standard frame."

In the *Journal of the Board of Agriculture* for June we learn that 48 million pounds of honey was imported into Hamburg, Germany, in 1899. More than half of it came from Chili and Peru. The light crop in this country last summer caused an increase in price there. Complaint is continually made in Germany of increasing competition of artificial honey, and measures are being taken by the honey-producers of Germany to obtain prohibition of imitations. By the way, why is the manufacture of an injurious adulterant permitted in this country, especially when not an ounce of it ever reaches the consumer under its proper name? Glucose is injurious to human health, and every pound of it made represents so much swindle at the expense of the one who last buys it.

In speaking of foul brood in straw skeps, one writer makes the following observations:

Foul brood and skeps are the source of all the mischief in my neighborhood; in fact, foul old skeps have infected my own apiary. Skeps rotten with age, standing on old floor-boards never cleansed or disinfected, the disease gets in, the owner is ignorant, and knows nothing of foul brood; finally his diseased hives are robbed out, and the disease conveyed to stocks kept, as mine are, under sanitary conditions. In skeps the disease can not be detected in its early stages, as in frame hives; the stock perhaps gets weak, and either dies or is robbed out, or may be the owner "takes it" for the sake of the honey it may contain, exposing the comb for other stocks to clean up. Such a case came under my notice last autumn, and now the owner's one-bar frame hive is affected, and in all probability his three skeps as well. I fear foul brood is going to commit great ravages in the East Riding of Yorkshire. If the skeps in my neighborhood could be all destroyed, there might be a chance of stamping out foul brood, but never so long as they exist.

Foul-broody frames of foundation that have been fumigated with sulphur, and afterward sprayed with a naphthol-beta solution, will be quite safe for using again.

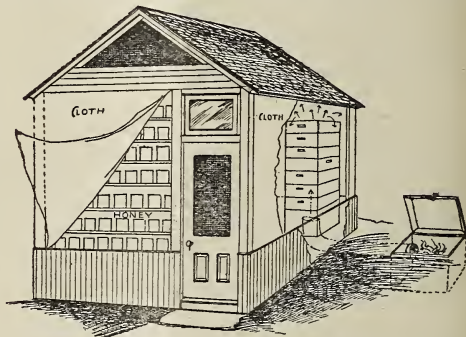
## GENERAL CORRESPONDENCE

### PROCESS FOR BLEACHING COMB HONEY.

By the Man who First Introduced the Bleaching Process.

BY L. J. CROMBIE.

Build a bleaching-house by placing posts 2×4 or 4×4 in the ground, 5 feet apart on all sides, making it 10 feet square and 7 feet high. Put on plates and roof. Build up around the bottom with lumber 2 feet high from the ground, making it bee-tight. Put in your shelves between the posts, making them 4 inches wide, and placing them 6 inches apart, one above the other. Place these shelves entirely around your bleaching-house, then cover the outside, from the lumber at the bottom to the plate, with the lightest house-lining. Seal



overhead with cloth or lumber. Leave the space between the sealing and roof open so as to keep your house as cool as possible.

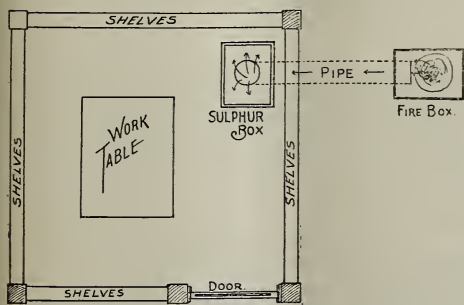
Place a screen-door in one corner, as seen in the sketch. Locate a work table, 3×6, in the center of your bleaching-house, for cleaning and packing on.

The best way to build a sulphuring-box is to take a stovepipe, 8 feet long, with an elbow at one end. Place the pipe under ground about 8 inches deep, letting the elbow come up above ground in one corner of your bleaching-house. For the outside end of the pipe take an old coal-oil can and cut a hole in the side sufficiently large to admit the stovepipe. Cut about half of the top of the can out square to allow you to put in your sulphur and for draft; then make a box just the size of a super, but four times deeper. Place the box over the elbow on the ground, in the corner of your bleaching-house, as seen in the sketch.

We are now ready for business. When you take off full supers of honey from the hives, carry them into your bleaching-house and place on the sulphuring-box; build up ten or twelve high. Put a heaping tablespoonful of sulphur in an old tin plate or pan, and place it in the oil can and start it to burning. In

this way you get the full benefit of your sulphur, as it enters the super in every row of sections and passes from super to super. Some may ask why I have the sulphur so far from the honey. Why not put it directly over it? The reason is, I have tried that, and the consequence was I had a lot of comb honey that became hot enough to begin to settle in the sections, and also turned them dark at the bottom of the sections. To get the best results, keep your honey as cool as possible when sulphuring. After the sulphur that you have put in your box has burned out, turn your supers upside down on your table; take out the honey, and clean; and as you clean, place on the shelves side by side, the honey facing the outside. Let it remain about 24 hours in daylight, then reverse, putting the other side of the section out to the light. When my shelves are pretty well filled I go over it every morning before the sun is up, reverse, and pick out what is sufficiently white. When the sun is shining it all looks white when it is not.

Pack as you take from the shelves. Care should be taken that the sun does not shine too hot on your bleaching house during a hot day, or you will have a lot of honey settling down in the sections and dropping out. When the weather is cool the sun does no harm. In hot weather I use an awning on the sides that the sun shines on, about four feet wide, sufficient to break the heat of the sun from the shelves. It is not the heat of the sun that you want. It is the sulphuring and the light that do the work. After comb honey has remained on the shelves three days, and is not sufficiently white, place in supers and sulphur, and place on the shelves again. You will find that you can bleach the darkest comb. Any



foreign matter that is on the comb will not bleach. I commenced the bleaching of comb honey several years ago, and there are but five others in the State, up to the present time, who have adopted it. They are B. B. Higgins, A. E. White, E. A. White, D. A. Higgins, and a man by the name of Coons.

Fallbrook, Cal., June 21.

[I must confess I was not aware that this question of bleaching soiled faces of sections had been made the subject of so much careful study and inquiry; indeed, our correspondent seems to have brought it down to a science. Such a building as is described can be very cheaply constructed, and I should im-

agine it would almost pay for itself in one season's use if the crop were large.

I wish our friend Mr. Crombie would tell us what classes of soiled sections he can bleach. In the absence of any statement to the contrary I take it he can bleach the cappings of any comb honey where the stain is on the outside; but when particles of propolis or dirt go clear through the cappings, no improvement can be made.

This matter of bleaching comb honey is a very important subject, and I should be glad to hear from any of our other subscribers as to what success they have been able to attain; and especially should I like to hear further from Mr. Crombie.—ED.]

### BELGIAN HARES.

Their Life History; the Various Species of Domesticated Rabbits; the Difference between a Hare and a Rabbit; the Variation in Species.

BY PROF. A. J. COOK.

Dear Mr. Editor:—I most gladly comply with your request to write up the new and important industry of Belgian-hare production. As my fitness for this duty might be questioned, I will say that previous experience with bee, chicken, and cattle breeding makes me a quick student of this new line, which is quite kindred to the above. It is an article of my faith that no true patriot will fail to become conversant with all the important industries of his section. Whether I grow citrus fruit or not, it is my duty and privilege, as a citizen of this glorious Southern California southland, to study into the delights of orange and lemon growing. Los Angeles County—my own county—has become not only the center of Belgian-hare production in Southern California, but to-day leads the world in the matter of breeding the Belgian hare. I have read several works on the industry, have visited the hutches of skillful breeders, and believe I could stand a first-class examination to-day on this subject.

These little mammals, "the Belgian hares," belong to the order *Rodentia* or *Glires*. The first word comes from the Latin word meaning to gnaw; the second, from the same language, is the word for "dormouse." The word *rodent* is especially applicable to this order of mammalia, as they are pre-eminently the gnawers of this class of animals. I hardly need say that the mice, rats, squirrels, beavers, etc., belong to this order. They all have the chisel-shaped front teeth or incisors, usually two above and two below, a vacant space back of these, as they have no canine teeth, and very perfect grinders for molars, three above and two below on each side. It is an interesting fact that the incisors are constantly growing, and thus are kept sharp by the necessary attrition. If either an upper or a lower incisor is broken off, the opposite tooth continues to grow; and as the fang is curved, the extra growth will form a circle which might serve to hang the animal up. I have found



one or two skulls where such extra growth has pierced the cranial cavity and entered the brain—a case, of course, of unintentional suicide. The rabbit and hare belong to the family *Leporidae*. These animals have four upper incisors instead of two. This, with their looser structure and long legs, makes it easy to distinguish them from other rodents. Both hares and rabbits belong to the genus *Lepus*,

orines have been destroyed in a single drive in the San Joaquin Valley.

The common names, hare and rabbit, though hardly scientific, have really distinct meanings. *Lepus timidus* and *Lepus callotus* are really hares. These are larger, never burrow, and are usually less prolific than are the rabbits. The first one mentioned above produces only two in each litter. The young, too, of hares

are active at birth, and can at once flee from danger. The rabbits, on the other hand, well illustrated in our cotton-tails, form burrows or warrens where the young are born. They are smaller than the hares, the meat is more juicy and tender, and the young born blind and hairless, and, like kittens (a name which is often applied to young rabbits), are inactive for some time after



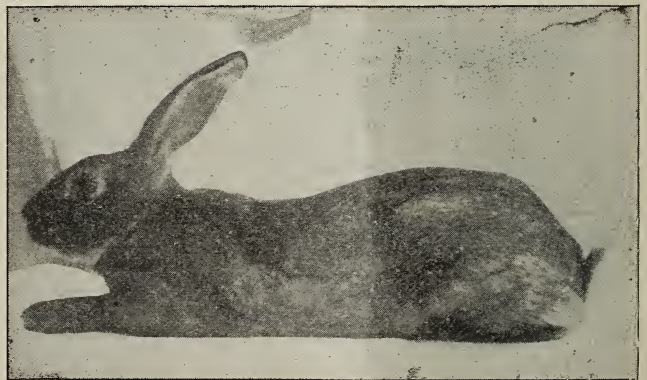
FOUR LORD BRITAIN'S DOES, FIVE MONTHS OLD.

which, like the family name, is derived from the Latin for hare. This is the only extant genus of the family.

There are a great many species of this genus, and they are found in nearly all parts of the world. Many of them have been domesticated. My space forbids mention of more than a few of these. *Lepus timidus* is the fine graceful English hare, which is so famous in the sporting world. *Lepus campestris* is the common rabbit of America which whitens in winter. *Lepus callotus* is the jack-rabbit of the United States. *Lepus sylvaticus* and *Lepus Californicus* are the common cotton-tails, which are somewhat prized as game animals. I hardly need say that many of these rabbits are serious pests to the horticulturist. The California rabbit is so fearless here that he comes by night close up by our houses, and, unless prevented, will girdle our finest trees, or prune very unscientifically our vines and shrubs. They also have a great fondness for the clover lawns. Our pet trees and shrubs are at present either guarded by a wire cylinder about them, or wrapped with gray carpet paper to fence off this evil. Many readers of GLEANINGS have read of the famous rabbit-drives of California, where hundreds of hunters go forth with horse and gun and drive the little rodents into an inclosure where myriads are killed. Hundreds of thousands of these lep-

bits. We would say, then, that the rabbits are higher than the hares, as we always consider it a mark of higher development where the young are inactive at first, and must be of necessity concealed and cared for by the mother. We readily see that this is a higher condition, as the young is guarded during the time when it is least able to flee from or ward off danger.

From what I have just said it will be seen that the term Belgian hare is a misnomer. This is a burrowing animal, and so a rabbit. It is probably derived from *Lepus caniculus*.



IMPORTED BUCK, DUKE OF AUKLAND; OWNED BY S. N. KEMP, LOS ANGELES.

I have already stated that many species of rabbits have been domesticated. The lop-eared rabbit is almost a monstrosity, as its ears are oftentimes 22 inches long and 6 inches wide. It has a large dew-lap, which is absent in the well-bred Belgian. The colors of this



rabbit are very varied, and it is so difficult to rear that it has not been much bred in this country. The Dutch rabbit is small, very pretty, hardy, and prolific; and, because of their fine milking qualities, have been used for nursing purposes by the breeders of Belgians. The Himalayan is white, with soft fur, and has ears, nose, feet, and tail almost black. Thus they are exceedingly handsome. As we should expect from their nativity, they are hardy and quite prolific. They weigh from five to seven pounds. The Egyptian rabbit would seem an enlarged Himalayan, so close is the resemblance. It also has black rings around its eyes, and is said to be very superior for table use. The Japanese rabbit resembles closely the Dutch. It is said to be beautiful in its markings, and very hardy and prolific. The Angora rabbit is remarkable for its long, fine, fleecy wool, making it appear of great size. The most valuable ones are the albinos, having white hair and pink eyes. In this respect—red eyes—they are like the Himalayan. The Siberian rabbit is marked like the Himalayan, but has the thick, glossy hair of the Angora. The Polish rabbit is probably only an albino, and so, as we should expect, is not hardy, and makes neither a good breeder nor mother. The English rabbit is spotted black and white. It is popular with the English fancier. The silver-gray rabbit is very popular—indeed, perhaps the favorite with the English fancier. The color is dark blue, silvered with white hairs tipped with black. The Patagonian rabbit is the Jumbo of the family, often weighing fifteen pounds or upward. It has been claimed as an offshoot of the Belgian or Flemish. It is not as beautiful as either of the last two mentioned. I shall speak of only one more, the Flemish Giant, which is probably only racially distinct from our favorite, the Belgian. As we shall see, it is likely that the Belgian rabbit and the Flemish Giant are races developed from the old Belgian rabbit, *Lepus caniculus*. The Flemish Giant is now very distinct from the Belgian, being much larger. The two varieties have been much crossed. I presume that the Flemish Giant ranks next to the Belgian in popularity the world over. The color is dark steel gray, while its ears are about six inches long, and, like those of the Belgian, are carried erect. Unlike the properly bred Belgian, it possesses a large dew-lap. Like the Belgian, it is very prolific.

The Belgian hare—we have seen this should be Belgian rabbit instead of Belgian hare, or, as some call it, Belgian hare-rabbit, which is really making a bad matter worse—is a well-marked breed or race. A race or breed is a variety of some species which has been so long bred in nature or by man that its characteristics have become well fixed. The Italian bee is a race formed, I think, in nature by isolation; the shorthorn cattle and Belgian hares are races or breeds formed more quickly by the intelligent selection of man. We now know that all our species of animals were developed in nature by the slow process of natural selection. The process of this was well worked out by Charles Darwin, and is now ac-

cepted by all intelligent students of the subject. It is briefly this: All animals—the same is true of plants—tend to vary. We all know this. No two children of a family are exactly alike, neither is either one exactly like either parent. Darwin thought this tendency to vary was inherent—a natural peculiarity implanted in the very economy of the organism. He says, over and over, "All organisms tend to vary." Other scientists hold, and I think with much reason, that all organisms tend to be exactly like their parents, but are swayed by environment, and thus the variation. The impress must vary from the very time of conception, and varying impressions produce the resultant variations. If, now, any variation in animal or plant—in the rabbit it might be in longer legs, making it more fleet—is an advantage to the animal it will have a better chance to survive, while its brothers will be more apt to go to the wall. By this slow, natural selection all our species have been formed. Before the differences were very marked, yet were fixed, these varying forms would have been races or breeds. The Italian bee is an illustration of such a race. It is not so different from other bees as to be ranked a distinct species; yet its peculiarities of color and habit are very persistent. Man works with more rapidity than nature, as he selects more carefully and certainly, and weeds out more surely and relentlessly. We see, then, that man might make a species in a few years, while it might take nature centuries to do the same. A race, then, is an incipient species, and races and species differ only in degree of modification.

The Belgian hare was, so far as I can determine, produced about a hundred years ago in the country which has given it its name. As we have seen, the species from which it was derived was probably *Lepus caniculus*. By careful selection, as we may believe, two well-marked races, the large gray Flemish Giant and the smaller rufus-red Belgian hare were developed. About forty years ago the latter of these two breeds was introduced into England, where it at once became a marked favorite. The English fanciers, true to their patriotic instincts, took the English hare as a model in color and form in their breeding of this new race. With the English hare as the ideal, they progressed very rapidly in developing a very superior rabbit; and to-day, unless we may except our own people in these last few years, our brothers of the British Isles lead the world.

Claremont, Cal.

*Continued.*

## THE HONEY-DEW QUESTION.

The Sources of the Good and Bad Honey-dew.

BY A. J. COOK.

I am more and more of the opinion that honey-dew is almost if not quite the exclusive product of plant-lice or scale insects. I had a very interesting object-lesson in this direction

while making a visit recently in the great Yosemite Valley. July 9th our party went to the summit of Cloud Rest, one of the highest peaks in the sight of the Yosemite Valley. The top of this mountain is over 10,000 feet above the surface of the sea, and more than a mile above the floor of the valley. About a mile before we reached the top of the mountain nearly all of the pine-trees were thickly studded with what looked like great mammoth drops of dew. As the sun was just about on the meridian at the time, we of course knew that it could not be dew. In fact, I knew at once the real cause of the phenomenon. Several of my students were with me, and I at once urged them to divine the cause and nature of these glittering spheres. Chaparral under the pines was glistening with the same thick substance. The students soon found that it was not only a sweet substance, but that the sweet was delicious to the taste; as one said, "It is as nice as the best honey." They found that it was only on the chaparral under the pine-trees, and so at once began to search in the pines to ascertain the cause or origin of this sweet substance. They examined many low limbs as far as they could reach from their horses' backs; and while they found much of the nectar, some of it even crystallized, they did not at once find any cause for its presence. We were, however, on a sort of scientific expedition, and had learned to be satisfied with one or even several observations. So the young men kept on making examinations, and soon found some plump, dark-colored plant-lice. On many of the limbs, these were so crowded on the twigs that they almost obscured the plant. The young men then looked at other plants which they had examined before, and in every case, higher up, the insects were found. We see from this how easy it is to make mistakes in such matters.

I think I have seen honey-dew in very copious quantities before; but I never saw any thing comparable to this exhibition on Cloud Rest. It was very easy to collect a sufficient amount to get a good taste, and so it was very easy to test the quality of the honey-dew. The students had discovered its excellence before they had found out its origin, and this latter fact did not at all abate their appetites. We can hardly be sure that the same would be true had they known its source at first. Do we not get a lesson, Mr. Editor, right here? Is not nectar like people—to be judged by its quality rather than its origin? I have had opportunity in my life, several times, to test in like manner this honey-dew secreted by aphides, or plant-lice; and I have found in nearly if not every case that the quality of the nectar was excellent. The honey-dew, on the other hand, from coccids, or scale insects, is as surely dark in color and bitter and disagreeable to the taste. A little of it will darken and spoil the best of honey, while I doubt if we need ever fear injury by the presence of plant-louse honey.

It is interesting to note the absence of bees in this region. I did not see a single bee, and very few nectar-loving insects. I presume

there is not usually enough nectar to support bees in the vicinity. I wish I might have a good apiary right there for a few days. It certainly would prove a bonanza. The honey would surely go in as A No. 1.

Claremont, Cal., July 30.



IS IT GOOD BUSINESS POLICY FOR A BEE-KEEPER TO MIGRATE TO A NEW LOCALITY? HIGH LICENSE OR PROHIBITION; REFORMED SPELLING.

A few days ago I went over to Deacon Strong's to borrow a post-auger. I never had much use for one, and so I had never owned one; but I knew the deacon would be glad to lend me his; indeed, he seemed greatly pleased with an opportunity to do me a favor.

After we had talked a little he invited me out to see his bees and his chickens that looked as though it was just fun to live and grow, and I was about to leave when Charley Atkins drove up, and in a kind of breezy way asked the deacon if he could spare him fifteen or twenty hives of bees next fall.

"What do you want more bees for?" said Deacon Strong.

"What is up?" said I, almost at the same time.

"Oh!" said he; and he looked down at the ground, and hesitated a little. "I have got sick of this climate, and I am getting ready to go to Cuba next fall. I am going to take down a hundred hives of bees, and four hundred hives in the flat to set up after I get there, with foundation, extractor, etc. This climate is awful—cold half the year and hot half the year, a good deal like the place where Milton consigned his devils where they would roast part of the time and then freeze a while lest they should get used to being frozen or roasted, and enjoy it."

I thought I would put in a word just here, and said:

"I have been down in the tropics myself, and know something about them; and, although it is warm all the year round, or, perhaps I should say, hot, that climate is not altogether perfect, and I believe I like a chance to cool off once in a while; besides, I can keep warm here in winter a good deal cheaper than I can keep cool down there in summer. I have studied climates a good deal, and I find there are drawbacks almost everywhere. If you stay right here you will get, in the course of a year, almost all the climates in the world. At any rate, I believe we have as large an assortment as you will find anywhere. When the mercury goes up to 95° I say to myself, 'This is the way it feels and seems in Cuba, but not so damp;' and when it goes 30° below zero I realize how it seems in Greenland in winter. When we have a drouth, and every thing turns yellow, and the leaves wither as



they did last summer, I say, 'This is much as it is in California in summer, without the dust;' and when in June the earth is green and the mountains are in their beauty, and the air vocal with birds' songs and humming bees, this is New England. And then we have our Indian summers and all the variations, with an occasional small earthquake that will fit almost any corner of the earth. But climates that are faultless are not plentiful, and I sometimes think we shall have to wait till we get into the next world before we find one that is perfect."

"Some of us may find it too hot for us there," said Tim Fasset, who was just going by with his new dog he bought for twenty-five dollars—half spaniel and half hound—good for foxes and coons and rabbits and squirrels; and they say they think it would follow a deer if the law would allow. I noticed the deacon tried to look serious when I spoke of the next world, but could not help being amused at Tim's droll way of looking at things.

"Well, it is not altogether a matter of climate with me," said Atkins; "but I thought if I was going to make a business of bee-keeping I might as well begin where there are plenty of flowers and lots of honey."

So we all began to discuss locations, as bee-keepers will. Of course, Charley Atkins thought Cuba the bee-keeper's paradise. But I told him of the long-continued heat and the worse dampness; the insects, the lack of good society, etc.

"Well," said Charley, "I think I can stand the heat, and I guess there aren't any insects much worse than the bees themselves; and as for society, my wife is as good society as I want."

"Good!" said Deacon Strong. "I like to see a man stand by and appreciate his wife; but did you ever think your wife may not be able to remain there long? I have known a good many families to go no further south than Florida, and it would not be many years before their wives or daughters, or both or all, would be coming north to visit; and they would visit all their brothers and sisters and uncles and aunts, staying at each place a good long while. They seemed to have learned the art of sitting to perfection, and looked so contented like when sitting, as though they had kind o' grown to the chair. And pretty soon the head of the family would come too. His skin was several shades darker than when he went south. He usually goes into ecstasy over our invigorating climate, and thinks he had better stay. And as for insects, I met a bee-keeper from Florida a few years ago, a regular cracker, as northern folks call them, and I asked him what kind of place it was in Florida for bee-keeping. 'Well,' said he, 'it is a perty good place over on the Indian River, where there are plenty of orange-groves and mangrove. The mangrove gives lots of honey, and of perty good quality, when the frost doesn't kill it;' but then he thought of some of the vexations even in that favored locality, and added, 'But there is one trouble in keeping bees in Florida, when you handle your bees you have to wear a bee-veil to keep off

the misquitoses.' So you see there are troubles, even in that land of flowers."

"There is another thing; we must not forget about locations," said I. "If there is a big yield in any section of country we hear of it and are apt to think that the best place in the world. One year Mr. Manum, of Bristol, Vt., had an enormous yield of honey; yet now, owing to cutting down the basswood, and other causes, the yield of honey is scarcely large enough to make bee-keeping pay, and he is turning his attention to fruit and garden truck. A place may be very good one year and very poor the next. They seem to get pretty good crops in the buckwheat sections of New York, but sometimes the buckwheat fails to yield honey, and it almost always sells for less than white honey. I have always thought the central parts of Vermont were very poor for honey; yet Mr. M. F. Cram, secretary of the Vermont Bee-keepers' Association, had last year, I believe, the largest crop of honey of any person in Vermont, and perhaps in New England, and he had a fine crop the year before. He lives in a queer place to think of making bees pay. I made him a visit last summer, and found to my surprise he lived near the top of a great hill. After walking up what is known as Cram Hill until I perspired profusely, and was not a little weary, I found his place. I am afraid I wasn't very polite; for, almost as soon as I found him, I accused him of being pretty well stuck up. He said he didn't think he was, as he was only 2000 feet above sea-level, which he considered very moderate. Here he makes it pay in producing choice honey that he sells for prices that might please any bee-keeper at the present time.

"Then there is California; but they have drouths, or dry years, and many of the bee-keepers have to leave their families and bach it, as Rambler does; and while some years they get large crops it doesn't sell as high as our honey right near the markets—at least doesn't net them so much. In Colorado they are already overstocked with bees, and so it goes."

"I guess," said Deacon Strong, "finding a good place to begin bee-keeping is a good deal like finding a good place to begin to be a Christian. Some folks seem to think it would not be difficult if they were only living among strangers, or were out west, or following some other occupation; but I believe there is no better place than right where you are. Most of our successful bee-keepers began right where they were, and have made the business pay."

"Johnnie, what is the matter now?" said Tim Fasset to his boy who was going by on his way home from school, sobbing as though his heart would break.

"Oh!" said the little fellow, "I didn't have any luck at spelling to-day. The teacher put out *slow* to John Gilpin, and he spelled it s-l-o-w. And then she put out *now* to Dick Carey, and he spelled it m-o-w. And then she put out *dough* to me, and I spelled it d-o-w, and the teacher said it wa'n't right—said it was spelled d-o-u-g-h. I don't see why."



"Come here," said Deacon Strong; and he took the boy up in his arms and told him he spelled right—the trouble was, the English was wrong.

"I can't have you talking such nonsense as that to my children," said Miss Barton, the teacher, rather crisply.

"Why not?" said the deacon.

"Why," said Miss Barton, "because that is the way it is spelled, and that is the way our fathers and grandfathers spelled it. Words have a history, and we should lose their history if we didn't spell as our fathers did."

"Suppose," said Tim Fasset, "we were to keep bees just as our fathers did, without making any change."

"I guess the price of honey would be higher than it is now," said Charley Atkins.

"What kind of a man is he?" inquired Deacon Strong.

"Oh!" said the colonel, "he is all right. He is a good business man and a temperance man; no one ever heard of his getting drunk. He might prefer a good high-license law to a prohibitory law; but he is all right, and he is a good church-member too."

"I don't care whether he is a member of the church or the sanhedrin, or a bishop; if he is willing to license that abomination I won't support him," said the deacon; and his face began to blush, and his eyes show fire.

"But," said Col. Wickham, soothingly, "you know prohibition doesn't prohibit, and—"

"It's a lie!" said the deacon. "Prohibition does prohibit, always prohibits. Doesn't



"THAT'S WHAT I INTEND TO DO, BEAT THE DEUCE EVERY TIME."

"I tell you," said Deacon Strong, "if I could have my way I would have a few more letters invented to represent every sound in the English language, and I would then spell it straight, and leave the history for the dictionaries."

How much more he would have said, I don't know; for just then Col. Wickham drove up with his team that he was offered three hundred dollars each for.

"Deacon," said he, "we are going to try to run Sylvester Williams for Senator from this county, and we should like to have you nominate him in the county convention."

the decalogue prohibit murder? Doesn't it prohibit adultery and theft and lying? It may not prevent—there is no human law that does."

The colonel had to admit that it did.

"But," said he, trying to soothe the deacon's ruffled spirit, "don't you think that a good law regulating what we can not wholly prevent would be a good thing?"

"Regulate!" said Deacon Strong, as he straightened himself up; "yes, regulate theft! regulate adultery! regulate murder! regulate the saloon! regulate the Devil! One would suppose that a man of your caliber would be in better business."



The colonel hitched around on his seat as though he didn't sit quite comfortably, as he remarked, "I believe, deacon, you are a regular prohibition crank. If you would come out of your hole and unite with the rest of us we might have union, and be strong enough to do something for temperance worth while. I am just as good a temperance man as you."

"Come out of my hole!" said the deacon. "You make me think of a story I have heard somewhere. There was a cat, a very good cat as cats go, that attended to all its feline duties faithfully; but there was a little mouse it could not get hold of. It would just run in its hole a little beyond the reach of her paw. One afternoon she sat beside that hole a long time, looking very amiable, and then said, 'Come out of your hole, little mouse; let's be friends. I am just as good an animal as you are. Come out of your hole, little mouse; let's be united; let's have union.' And that mouse was a goodie-goodie little mouse, and it came out of its hole, and they were united, and there was union; but it was all cat."

"You beat the Devil," said Col. Wickham, as he drew up his reins, and said "go" to his horses.

"That is what I intend to do," said Deacon Strong.



#### SULPHURING COMB HONEY.

"Say, Mr. Doolittle, I came over this morning to have a little talk with you about moth-worms in comb honey. A bee-keeping friend lent me some of his old bee-papers, and in them I see that there is sometimes danger of the larva of the wax-moth injuring comb honey by eating the cappings to the cells. What do you know of this matter?"

"Well, Mr. Jones, I have yet to see the pile of 2500 lbs. of comb honey which does not have more or less of these worms or larvæ upon it, after it has been stored in a warm room for three to four weeks, though these pests are not nearly so bad as they used to be 25 or 30 years ago, owing mostly to Italian bees being kept now instead of the blacks."

"What has the Italian bee got to do in the matter, I should like to know?"

"Italian bees are much better in protecting their combs from the wax-moth than are the German or black bees, and this one point alone would almost lead me to change from blacks to Italians, were they not superior to the blacks in other respects."

"How do the worms get on the comb honey? I read that the bees would not allow the female miller to enter the hives to deposit her eggs on the combs."

"This is a somewhat disputed point. Some think because they have seen the bees chasing the millers away from the entrance of the hive that the bees never allow them to enter,

and so account for the eggs getting on the combs through being carried there on the bees' feet, or in some such way. I am not sure myself how the eggs get on the combs, but I have seen the millers dart into the hive many times; and, though I have watched patiently for nearly an hour at times, I have not seen them come out again. At other times the bees will rush them out as soon as they go into the hive."

"How do you know when the worms first begin to work?"

"After the honey has been away from the bees for about ten days, if we inspect the cappings of the honey closely we can detect little places of fine white dust, resembling flour, upon the surface of the comb, and usually the most abundant near the bottom of the combs, and especially about any open cells containing pollen, should we happen to have any sections having pollen in them. Although this little speck of dust may not be larger than the eye of a very fine needle, still it tells us for certain that a tiny worm of the wax-moth is there, and that, unless it is destroyed, it will destroy more or less of the nice white comb which encases our honey."

"Did you ever see any thus destroyed?"

"Yes. I have had, in former years, combs of honey entirely denuded of the cappings to the cells, with the honey running all about on the floor under the pile, but never after I was fully aware what was the trouble. Then while in different cities, some years ago, looking after the honey market, I saw boxes of honey which had worms in them nearly as large around as a slate pencil, and an inch or more long; and the strange part of it was that, although they had nearly denuded the honey of the cappings to the cells, I could not make the grocer believe that the worms lived on the wax, they calling them honey-worms."

"If I find these flour-like places on my comb honey, what should I do?"

"The next thing is to sulphur your honey, as this is the only practical known remedy for these pests."

"How is this done?"

"To do this I take an old iron kettle and put an inch or two of ashes in the bottom so there will be no danger of fire resulting from the heat from the coals which are to be placed therein."

"A kettle, some ashes in the bottom, and live coals put on the ashes?"

"Yes; and when I have the kettle thus prepared I take it to the honey-room and pour sulphur, which has been previously weighed, on the coals, to the amount of 4 ounces to every 75 cubic feet contained in the room, when the kettle is quickly pushed under the pile of honey, which is purposely piled loosely and up a little from the floor. The room is now closed as tightly as possible, and you will have to be a little spry in what you do after you pour on the sulphur if you have weak lungs, or you may suffer from the fumes yourself."

"How do you tell when it is sulphured enough?"

As soon as the room is closed I go to the

window and look in. Presently the few flies which may chance to be in the room will try to get out by coming to the windows. I watch these flies. Their legs and wings soon begin to be paralyzed; and as soon as I see that the last fly is lifeless I wait five minutes longer, when I open the door and windows, so as to carry out the smoke as soon as possible."

"Why do you want it out? I should think it would be better to let the honey steep in it a while till sure all worms are killed."

"If this smoke is allowed to settle it will give the combs and sections a greenish color which will damage the sale of our honey. The same thing will also be likely to occur if more sulphur is burned than I give you. It seems to be quite a nice point to get this matter right; for if too little is used the worms will not be killed, while if too much is used the combs are sure to be turned green. The amount I have given you has been arrived at after years of careful trial and experimenting."

"Does one sulphuring suffice?"

"Yes, unless more honey is brought into the room after the first has been sulphured. If so, then this last has to be watched; and when the flour-like places are seen this must be sulphured also, or the whole, if the first has not been taken out and sent to market, or otherwise disposed of. No honey should leave the hands of the producer until there is no danger of these pests making an appearance after it has been placed on the market."

"I see there is more in the production of honey than I thought there was. I thought it was a very simple matter till I got started in the business."

"Glad to know that you realize something of this, for very many beginners rush their surplus on the market with little thought of how it looks or what comes of it after it leaves their hands, thereby hurting the market for the man who leaves no stone unturned that his honey may reach the market in perfect shape and appearance, and one which will last until the honey is all in the consumer's hands."

"Well, I have bothered you long enough, and I'll be going."



#### FEEDING BEES WITH SQUIRT-GUNS; A RAPID AND PRACTICAL METHOD OF FEEDING.

In reading Mr. Victor's article on stimulative feeding, page 517, it seems to me that to depend on the force of gravity to get the feed into the hive would be rather slow work. Why not apply muscular force, getting the same result in a fraction of the time? If he will get a common bicycle-pump, about 12 inches long by one inch in diameter, unscrew the lower end, and in its place attach a curved flat nozzle, say  $2\frac{1}{2}$  in. long by one inch wide, he

will have a rapid-fire honey-gun that will do great execution. Dip the end of the gun into the bucket of thin syrup or honey, and then draw on the handle until the proper quantity is sucked into the gun, then fire it into the hive. If one wished to feed exactly the same amount to each colony, marks might be made on the piston-rod showing the number of fluid ounces the gun would hold if the rod was drawn out up to that mark, etc. In practice, however, I think one would soon get used to drawing the handle out the proper distance, and would pay no attention to the marks.

Three years ago I had occasion to do a little stimulative feeding, and with an implement of this sort I could feed 100 colonies in a little less than 12 minutes. Ordinarily one might take 15 to 18 minutes to feed 100 colonies, but even then it would be rapid feeding.

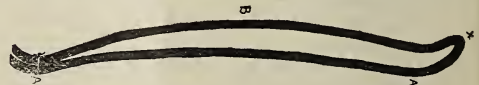
Another thing, it won't be necessary to spend any time pounding on the hives to let the bees know that supper is ready. Just insert the nozzle into the entrance, give a quick push on the handle, and the ration will be left on the bottom-board, or else it will strike the back end of the hive and fly in all directions, or it will be sent kiting up among the bees, depending on the "elevation" you give the gun and the force applied to the handle. It is far ahead of any other method for *stimulative* feeding that I ever heard of.

San Diego, Cal., July 30. G. F. HYDE.

[Well, now, friend Hyde, I believe you have struck on something that is valuable and practicable. I just *know* it would work. Nearly every one has a bicycle, and can very quickly put the plan to a test. But if he has not a wheel he can buy one of these pumps at a repair-shop for about 25 cents. I am inclined to think something made specially for the purpose will be better still. I would construct a bicycle-pump with a longer barrel, without hose, and on the end have a stationary curved nozzle. If the pumps are about 18 inches long one could reach down to the pan of syrup, shove the nozzle into the entrance of the hive, and squirt the food between all the combs and all through the hive. If this were done at night there would be no danger from robbers, and I will guarantee there is no method for stimulative feeding that would equal this for rapidity of work. I will have a pump made on purpose, and have the thing tested at once. —Ed.]

#### THE MERRELL SUPER-SPRING; A PRACTICAL DEVICE.

I herewith inclose a super-spring for your consideration and examination. In GLEANINGS for June 15 I see Mr. W. D. Wright claims to have originated the round spring.



Now, he may have claim to his spring in shape, but I don't think he has the right bend in it. The spring I send you I call the hair-pin spring, and you have only to have a



lady's shoe-button hook to draw the spring from the super. Thus you see you can loosen the sections without any trouble or jerking while on the hives. All you have to do is to slip one of these springs behind the follower at each end of the super.

How I came to get the new idea, the new super sent out has a spring that I consider a failure, and I set to thinking for something better, and I am certain I have it.

Edneyville, N. C. JOHN A. MERRELL.

[I have seen a good many forms of super-springs, but I believe you have hit upon the most practical construction yet. They can be easily made, and have the advantage that they can be drawn out with a button-hook, leaving the follower, sections, and every thing else, practically loose. Indeed, we think seriously of adopting them for another season, and, if so, we will see that you are suitably rewarded.—ED.]

#### FLOORS FOR BELGIAN-HARE PENS.

I have read with considerable interest all that GLEANINGS has to say about the Belgian hares, and have visited some of the rabbitries here, and asked many questions of the owners. July 1, Dr. Miller asks if the pens must have a tight floor. On p. 520 we are told the floors must be absolutely tight. Perhaps in a damp country that is true. Here I have seen them made like the rest of the cage, of poultry-netting. The owner said he cleaned up every other day, but every day would be better. He turns out some, if not doing well, into a half-acre lot; says they seldom trouble about burrowing, but he is careful not to allow a beginning, and promptly closes any hole begun. He feeds alfalfa hay, and grain—very little green feed; pulls some weeds; sells dressed meat at 12½ cts. The business will probably find its level in time. L. W. DENSMORE.

Santa Barbara, Cal., July 31.

#### SOME NON-SWARMING BEES.

Some time ago I noticed quite a lot of talk about a non-swarming strain of bees. I doubt if it will ever be found, but I think I have the next thing to it—not a swarm in four years. This colony's honey-record is 116, 70, 124, 192. They are hybrids.

Some time ago I received a select tested queen, and introduced her to a colony of blacks. She laid very few worker eggs—just enough to keep the population of hive fair, and any quantity of drone eggs. Last April I introduced her to a colony of hybrids. She at once commenced to lay, and has kept right at it ever since—kept ten frames full of brood, and her bees are now on their second 40-lb. super. Will some of the older heads please account for the sudden change?

G. W. CARTER.

Jamestown, N. Y., June 30.

#### AGE OF LARVÆ FOR QUEENS.

I have 14 prosperous colonies with laying queens, and hives well filled with honey, bees, and brood, as the result of my efforts, all from

nuclei, by moving the old stand and placing two or three frames of eggs and brood on the old stand, letting them raise their own queens. I became very much discouraged with the first ones on finding no appearance of queen-cells that I could see; but about the third or fourth day I could see queen-cells started, and every time I looked I could find more queen-cells started for about a week. I came to the conclusion that the disorder and confusion incident to the removal of the old stand with the queen kept the cell-building and queen-rearing instinct in abeyance for a time, and after a while it occurred to some, and still later to others, that they needed a queen. The honey-flow was in wasteful profusion.

L. R. STROUD.

Cleburn, Texas, July 12, 1900.

[As this was more in Dr. Miller's line of experiments I referred it to him. He replies:]

The disorder and confusion incident to removal would hardly account for delay in starting queen-cells, for that would only make the bees notice their queenlessness the sooner. If you depended altogether on field-bees returning to the old stand to form your nuclei, you would have bees that had given up the duty of feeding larvæ, and it would not be strange that it would take to the third or fourth day to get in condition for such work.

While you have been successful in building up good colonies, the plan of depending on old bees to start nuclei is not to be commended, and your success might have been greater with a different plan.

C. C. MILLER.

Marengo, Ill.

#### A GOOD REPORT FROM CALIFORNIA.

Our honey-flow is over for this season, and for the third dry season in succession our bees did well. My bees averaged 100 lbs. extracted honey. Hon. J. M. Hambaugh's bees made the best record, so far as I know—between eight and nine tons from 90 colonies, spring count. Other apiaries averaged one case per colony in this part of San Diego County. The flow ran through May, June, and a week in July, in my locality; and in and around Escondido, April weather helped a good flow of white honey for that month.

One of our grocery firms bought nearly all the crops here, and now they pay 5¼ cts. for light amber and amber in lots, as it comes. Water white started at six cents, and fell to 5½; then back to 5¼. So far as I know, there is very little honey in the hands of the producer now.

I had a little experience with the "Draper barns" this season, and, so far as I am able to say, I think they will prove a success in this part of California.

M. D. NICHOLS.

Escondido, Cal., Aug. 6.

At your request some time ago as to honey surplus this season, I would say it has been one of the poorest on record with me in my 8 years' experience with bees, and I have more than I ever kept at one time—35 colonies. We have just had another rain, and hope to get some fall surplus. Queen received all right.

Cincinnati, O., Aug. 2.

C. ROEBLING.



IN our own locality we have been having a light flow of honey, probably from second-growth clover. A few days ago robbing was the order of the day, but now it is almost entirely stopped. While there is no great showing in the hives, our queen-rearing operations are going on at a good rate.

On page 646 of this number will be found an article telling all about how to bleach comb honey. The *modus operandi* is somewhat similar to the one we illustrated some time ago; but friend Crombie has made an improvement in that bleaching by the two methods—sulphur and sunlight—is all done in the same building.

OUR subscription clerk informs me that GLEANINGS subscription-list of paid-up subscribers is now the largest it ever has been since its existence, and it is still jumping up. Considering the poorness of the season, we feel grateful to our many friends and patrons; but when honey fails, the wise bee-keeper is the one who will keep up his bee-literature so that he may be able to profit by all that is latest and best.

OUR Mr. Wardell has been trying all the different methods for queen-rearing. At present he rather favors the drone-cell cup, but he says when he can get plenty of the Pridgen cups he prefers them. I have tried to make Mr. Wardell think that transferring the cocoons *a la* Pridgen would be a saving; but after having tried it he prefers the Doolittle plan of putting the royal jelly into the cup or drone-cell as the case may be. In his experience he gets more of them accepted where the royal food has been given than where he transfers cocoons; but Dr. Miller's experience, I understand, is quite the reverse.

#### THE LANGSTROTH MONUMENT.

WE have just received word from General Manager Secor, of the National Bee-keepers' Association, stating that the Langstroth monument cost \$300, and that the same has been paid for; and, if I am correct, by grateful bee-keepers in this and other lands. We had sent on the sums of money placed in our hands, amounting to some \$93.98; and these and other funds have been forwarded to cover the expense of the monument, "and the matter is all closed up," says Mr. Secor. It will be remembered that, before he took hold of it, we were enabled to raise only about \$150, but he has doubled it.

If it is a possible thing I hope to have a photo of it in time so I can throw it on the screen at the Chicago convention, together with a picture of Langstroth himself. Appropriate words will be offered by Dr. C. C. Miller, in connection with a short biographical sketch.

#### HONEY FOR 1900; GETTING GOOD PRICES.

THERE is very little new to report about the honey season this year. In general it may be said to be a poor year. But Michigan and Colorado seem to be especially well favored above all their sister States. We are beginning to find, however, that in many of the States where poor yields were generally reported, a great deal of honey has been taken; but those who have a crop to dispose of are a little shy about making the fact known. It is folly to wait too long. The time to get good prices is usually at the very beginning of the first new honey, and just before the holidays.

As will be seen by the Honey Column elsewhere, the markets are firm; but there is hardly a probability that honey will go much higher than it now is. Now is the time for the intelligent bee-keeper to study his own local market and his city market, and then decide where he will dispose of his crop.

#### DR. MASON "INTERVIEWED" BY A REPORTER.

In the *Toledo Blade* for Saturday, Aug. 4, appears a very interesting article entitled "Bees and their Wonderful Talents." It appears that one of the reporters of this enterprising paper visited Dr. A. B. Mason, Secretary of the National Bee-keepers' Association, and posted up generally on the subject of bees. The article speaks very highly of the genial secretary, and describes him just as we know him, and then goes on to tell the uninitiated public some of the secrets of the hive, in an interesting and instructive manner. In the statement of facts it is wonderfully free from error; and any reporter who could, after an interview, write so good an article on bees, without any practical knowledge beforehand, deserves the thanks of bee-keepers.

Such articles as these, especially when the material is from practical men, do a vast deal of good. They break down the general distrust against comb honey, and tell the public generally how the product can be produced annually in such immense quantities.

I forgot to mention that the engravings of the drone, queen, and worker, as made by the *Blade* artist, are strikingly accurate. They would satisfy the most exacting taste of any bee-journal editor.

#### BEE INSPECTION IN THE STATE OF NEW YORK; PREVALENCE OF BLACK BROOD.

THE following will be read with interest by all bee-keepers of the Empire State:

The Commissioner of Agriculture, under the provisions of Chapter 223, Laws of 1899, appointed four agents to carry out the work of inspection of bees.

Up to the present time the work has been confined to a few counties where the diseases have been most injurious to this great industry.

The agents of this department are all experts in bee culture, and have done a great amount of good work among the owners of apiaries, giving instruction on the care of bees, and especially suggesting remedies for their diseases.

The Commissioner has had a bulletin prepared on the black (foul) brood among bees, and will send copies to applicants.

A compilation of the reports of the agents since the work began on the first of May to the 21st of July shows as follows; viz.:



Number of apiaries visited.....	633.
Number of colonies examined.....	14,763.
Number of colonies diseased.....	4689.
Number of colonies condemned.....	2604.
Number of colonies destroyed.....	214.

The colonies destroyed were so badly diseased that no treatment could save them, and those condemned were simply set aside for treatment.

The Commissioner will be pleased to receive letters from those in this State who have bees, and he is anxious to do any thing in his power to increase the product of the apiaries.

This report was sent to us, but arrived too late for our issue for Aug. 1. It shows the awful prevalence of black brood throughout New York, but on the other hand it also shows the thorough work that is being done by the Commissioner of Agriculture; and if this work continues, as it undoubtedly will, there is no reason why the disease will not be checked by another season. The one-inspector plan could not have accomplished such results, and it is evident that the bee keepers of New York have just the law that is needed, for the work is divided among a lot of competent experts who have this season had their hands full.

#### THE CHICAGO CONVENTION, AGAIN.

REMEMBER the date of the big Chicago convention on the 28th, 29th, and 30th of this month, program of which is given on page 665 of this issue. As the time goes on, there is every indication to show that this is going to be a big convention. The very low rate of a cent a mile each way, announced by some of the big roads, will enable many to go who would otherwise feel they could not afford the expense.

I am preparing for this particular convention something like 200 stereopticon slides. These will comprise portraits and apiaries of the leading bee-keepers, not only of this country but of other lands; various methods of manipulation of the bees, hives, and implements will also be illustrated, including a new plan for bleaching comb honey. The pictures will all be first-class; and with a first-class stereopticon, I feel very confident that we shall give the bee-keepers a good treat. It will be practically a trip around the bee-keeping world. A part of the journey I will take you along on my bicycle, and show you what I have seen. Mr. Hutchinson, on the second evening, will take us with him on a trip through Wisconsin and Minnesota. The views on this evening will be especially fine, as they are made from some of Mr. H.'s best photos. Neither pains nor expense has been spared to make the stereopticon feature of this convention one of the strongest that has ever been given.

The question-box will be another prominent feature. The questions are already being prepared by some of the leading bee-keepers of the country, and will be answered by men of skill and experience. The papers that will be presented are from some of the best and most skillful bee-keepers in their respective lines; and altogether, even if I do say it, I believe this will be one of the most profitable and enjoyable conventions that we have ever had.

Unfortunately it has been a poor year for

bee-keepers throughout the country, but I feel sure that those who are within reasonable distance of Chicago can not, in spite of the poor season, afford to miss the privileges offered.

Perhaps *after* the convention there will be a sort of honey-harvest festival. We have been invited by L. Kreutzinger, of Chicago, to make a visit to his apiary, and discuss bees and honey. Just what action will be taken will depend on the will of the convention.

With regard to railroad rates, I would suggest that each bee-keeper go to his local agent and find out what he can do. He had better buy a round-trip ticket to the Chicago G. A. R. encampment. As some of the big roads have already offered a cent a mile each way, the probabilities are that the smaller ones will follow suit.

#### THE PROPORTIONATE WEIGHT OF WAX AND HONEY IN CAPPED COMB HONEY.

ON page 21 of Prof. Gillette's Bulletin No. 54, referred to in our last issue, there is another table that shows the amount of honey in given thickness of capped comb, and the proportionate figures are somewhat interesting, although not contrary to what we should expect. Prof. Gillette says:

In case of natural comb honey 1.37 inches thick the honey weighed 28.33 times as much as the wax, while the sample .75 of an inch thick, which was built at the same time as the thicker comb and by the side of it, had only 18.43 times as much honey as wax. The intermediate sample (1.13 inches thick) had 26.66 times as much honey as wax.

And, again, in speaking of deep-cell foundation, he adds:

Passing to the sample of comb on the "1899" deep-cell foundation, we notice, first, that it is much heavier than any of the preceding; and hence much thicker, and in consequence it has a much higher ratio of honey to wax, 1 to 27.75. This is also in keeping with results announced on previous pages, indicating that this foundation is drawn out by bees into a comb approximating the lightness of the natural product.

Once more, in summarizing the whole, he concludes:

From the facts given in the above table, it is evident that, if we are to secure a comb honey with the least possible amount of wax, it will be necessary to have it built in sections that will secure the greatest thickness of comb. In this way we can also economize very considerably the labor and energy of the bee in wax secretion and comb-building.

The tendency is toward thinner combs rather than thicker ones, the reason being that, in the case of the last-named, there are apt to be more unfinished sections than in the others. Partly completed boxes bring only about half the price of those fully finished. Then the argument is advanced that honey is better ripened in shallow cells than in deeper ones; but experience, as well as Prof. Gillette's tables, goes to show that, the thicker the combs, the less of wax there will be to the given bulk of honey.

His observations regarding the deep-cell foundation are also interesting, as they go to show how perfect was the article, and how groundless were the fears that it would make "gobby" comb honey. Were it not for the mechanical difficulties, or, more exactly, the great cost of turning out this product, we would market deep-cell foundation by the ton; but it requires very delicate die-work, and a

man who has unfailing patience, possessing the skill of the finest die-sinker and tool-maker. The first cost of the dies, and the liability to damage or breakage, will, I am afraid, render deep-cell foundation little more than a wonder in mechanical possibilities.

For the further consideration of this subject see one of Dr. Miller's straws, and the answer thereto, in this issue.



Let there be no strife, I pray thee, between me and thee, and between my herdmen and thy herdmen; for we be brethren.—GEN. 13:8.

I suppose there have been hundreds and may be thousands of sermons preached from this celebrated text, this grand sentiment uttered by that old patriarch Abraham. There have been sermons on the latter part where he says, "We be brethren;" and there have been many sermons also, I presume, on that first part in regard to "strife;" but I am inclined to think I have something to say about strife that has not been said in just the way I want to say it, and very likely many of you will not agree with me—or, let me say, perhaps very many of the "*brethren*" will not agree with me. The children laugh at me because I am so averse to strife about any thing. No doubt the grandchildren will laugh, when they are a little older, about grandpa's ideas in regard to contests. Yes, to tell the truth, judging from more than half a century's experience, I am not in favor of contests of any sort. Now, do not understand by this that I do not believe in rewards, for I certainly do; that is, where a reward is offered to every one who does something meritorious. But I do not believe in setting a lot of people to work (or a lot of children, if you choose), and rewarding one and giving all the others nothing. I sometimes tell Mrs. Root (for she *too* is rather against me), that the prize business is like setting a lot of boys to sawing and splitting wood on a hot July day. They will work hard, every one of them, and yet all the pay for all the wood that is cut is given to just one boy, and nothing to the rest. Some of the larger ones say the rest *do* get something—they get exercise, and acquire skill by the effort to win the prize. But, dear friends, can not the boys get exercise, and acquire skill, and have pay for the work done, just the same as other people get, either boys or men?

But this is not just the point I have most at heart. There was strife between the herdmen of Abram's cattle and the herdmen of Lot's cattle. Hired men are ever ready to get into strife. They like the fun of it. It is a kind of excitement that varies the monotony of the dull routine of hard work; and when they get into such a strife each side is very loyal to its employer—that is, the contestants think they are, just as our soldier boys were very

loyal to Uncle Samuel when the war broke out with Spain. Was it altogether patriotism, or was it not somewhat a craze for entering into strife for seeing who could beat or win? I do not think I am stubborn or obstinate in the matter, but I really can not conscientiously take part in any thing when it begins to be evident there is a strife to see who will beat or who will come out ahead. Of course, it does not always assume the bitterness and hatred that we see—well, say in horse racing. Once in my life I was asked to be judge in a horse-race. I saw the faces of the contestants. From their actions I caught a glimpse of the fierce spirit that stirred them—a spirit that would impel them to kill the horse, or even kill themselves, rather than be beaten by the man they hated. When I innocently and honestly announced the decision of the judges, the losing man called me the worst names, coupled with oaths and curses, that his angry tongue could get hold of. I do not see how I can any longer be a follower of Christ Jesus, and take part in any such contest or strife, if that is a better word.

Some of the young ones may say, "Why, Uncle Amos, you are getting to be too old for such things. If you feel as you do, we will excuse you; but can we not, each of us, do as we think right in such matters?" Of course, you can do as you think right; but when you say I am too old I fear you are making a mistake. Let me illustrate: A bright little niece of mine once said, "Why, Uncle Amos, why not let everybody do as he likes about going to circuses? If you do not like circuses, don't go; but why not let those of us who do like them go with other people?"

"Why, my dear friend Mabel, I do like circuses just as well as any of you children. I should greatly enjoy seeing a great part of the performances this afternoon. In fact, it has always been hard for me, when circuses come around, to think that I could not consistently go with other people."

"Why, if that is true, *why* don't you go with the rest of us? I am sure I would if I *wanted* to."

I did not know just what I replied to this last, but I might make a reply something like this:

"Dear young friends, do not for a moment think I have no enjoyment in, or, if you choose, longing for, things I feel compelled to decide are not best. Why, to tell the truth I frequently have great longings for a glass of lager beer—not only a glass, but I should like a whole pitcherful. If it were not wicked, and it would not trouble my conscience, I do not know but I would give half a dollar willingly for all the lager beer I wanted to drink. I am ashamed to say it, but I want you to know that I am human. I am just like other people. I need not tell you why I do not drink the beer. When I see the awful wreck and ruin that it is making, not only here at home, but in every part of the world, I can not think of touching a drop of it no matter how badly I want it; and I am heartily ashamed of that old appetite, started before I was 25 years old, that clings to me still." But



this is only *one* of the crosses the Christian is called on to bear; and when he considers that he is bearing it for the dear Savior's sake, or, if you choose, for the wives and mothers and the little ones throughout the land, then it should become a glad and *joyous* cross-bearing.

But we are getting away from the matter of strife. I digressed in order to explain to you that in my veins there is a craze for contest and a craze for strife. Why, it was not many months ago that I endangered my life just to let a man and his daughter know that I on my wheel could run away from a smart high-priced horse. I said in pleasantry that I guessed I would go ahead and get out of the dust; but the young lady said, in the same strain of pleasantry, "Father, just let him see he can not get out of the dust quite so easily." Before I knew it a crowd of people had gathered, and they were watching us. I had the pleasure of feeling myself the victor. Had the horse been able to crowd me harder I should have undoubtedly gone beyond the limit of my strength without realizing what I was doing, for my poor foolish heart was filled with strife. Reason, good sense, Christianity, and every thing sacred and holy were for one brief minute crowded out of sight. As I lay on the lounge at my sister's, panting for breath, and fearing I had hurt myself, I asked God to forgive me, and decided then and there, God helping me, I would henceforth beware of strife and the mania for coming out ahead. Is not that sense and reason? Whenever any thing comes up in the way of amusements where strife is going to figure, I feel it my duty to urge caution at least. If you think I am wrong, let me give you a test. The next time you really get into some strife to beat, stop long enough to ask yourself the question if you are not hoping your opponent will have some bad luck. Would you feel bad if his horse should break? or if it is a base-ball game, would you be really sorry for a mishap that would throw the victory your way?

Since I have practiced this sort of self-examination I have often been obliged to pray in real anguish, "O Lord, help me to get this wicked feeling out of my heart. Help me to *love* my enemies. Help me to *bless* them that curse me, and to *pray* for them that spitefully use me." I am trying to love *even* my enemies; to have kindly and unselfish feelings toward those who spitefully use me, even though they persist in it. I am trying to wish well to all those who are trying to beat me and to come out ahead. May God help me in this *tremendous* undertaking; and may he bless the words that I am writing to you now when I am trying to encourage you to *avoid* strife. I have heard about pleasant, good-natured contests. Well, if you can enter into a contest, and feel all along just as well pleased to have your opponent come out ahead as to do so yourself, well and good; but, dear brother and sister, beware of the selfish spirit—the spirit that would prompt you to crowd somebody else *down*, that you might get *up* a little higher. Strive to cultivate a spirit that rejoices in your neighbor's

prosperity and good fortune. Be content to be *second*; be content to take a lower seat than those round about you. Remember the dear Savior's words when he said, "Blessed are the meek, for they shall inherit the earth."

Strife is directly opposed to the spirit of Christ Jesus. It is as far away from Bible teaching as any thing can possibly be. Strife is always selfishness. It admonishes you to build yourself up; and never mind, even if in this building-up you do tear your neighbor down. If any thing is to be divided, strive so as to be sure to get the better half for yourself. In that book called David Harum, that has been so much lauded, David says something like this: "Do unto others as they are continually trying to do unto you; and be sure you do it first." He puts it in horse-jockey language, but the sentiment is the same. The import is, that every man is working for himself, and if you are wise you will work for self also; but the main thing is to anticipate the selfishness of the other fellow. Be selfish first, or, in other words, if you meet somebody who seems to have a disposition to be fair and honest, or even liberal and kind, before he has a chance to show a good spirit exhibit your own evil disposition, and drive out the good spirit by provoking him to be evil also, like yourself. Should such teachings as this have any place in the literature of the twentieth century? Jesus says, "Do good and lend, hoping for nothing again;" "love ye your enemies; do good to them that hate you." He says we are to reprove and correct the selfish spirit we meet by showing kindness and liberality and also unselfishness. Instead of provoking men to selfishness and wrong we are to discourage evil thoughts and feelings by being generous and kind. If a dollar or a dollar's worth of something is to be divided, give your neighbor 60 cents—first, because you love him and delight in seeing him prosper; secondly, because you recognize how *all-pervading* is the selfish spirit, and you want to be on the safe side. Do this where only a dollar's worth is in question; do the same if it is a hundred dollars—yes, even if it should be a thousand; or if there is a deal between you where ten thousand dollars is at stake, let your neighbor, or "the other fellow," as David Harum expresses it, have six thousand dollars rather than four thousand—I mean, of course, in things where there can not be any exact division. You may be the poorer in this world's goods, but you shall have treasure laid up in heaven.

Strife between individuals is a sad thing; but strife between great nations is a thousand times worse. Yes, if strife should be engendered so as to stir up a great war between the United States and China, I might truthfully say it is a *million times* worse than strife between neighbors. Of course, I do not mean that our missionaries should not be protected, nor that other nations of the world should not unite in demanding of China that she make good, so far as she can possibly do so, the outrages she has perpetrated on other nations; but I do mean that there should be no such foolish strife as is just at this time prompting

some American people to commence outrages on the peaceful and law-abiding Chinese here in America. There are good people and bad people in China as well as everywhere else in the world; and it would be bad grace for us to demand just now that China must restrain her mobs. Not many months ago the police in our neighboring city of Cleveland were openly defied, for a time, by mob law. Since then this same mob, or the same kind of mob, has still more defied law in St. Louis; and just now we are shocked by the news that in New Orleans a mob of young men, mostly under 21, defied the police force from early in the evening till long after midnight; and in the mean time they put to death a dozen or more colored people for no offense whatever, unless indeed it is a crime to have a black skin. They killed something like a dozen, as I have said, and wounded every negro they came across. A man 75 years old was brutally pounded and shot while he was standing at the door of his own home. An aged colored woman was treated in the same way. I do not know yet what New Orleans proposes to do with the youngsters who overpowered or intimidated their entire police force. In this case the mob was stirred by some imaginary grievance against the colored people. In China the mob became too great for restraint by law, because of a grievance against the foreigners. Rev. C. N. Pond, of Oberlin, Ohio, whom perhaps many of you have heard of more or less, has children and grandchildren in China. He closes a recent kind letter with the following words:

We have no word from our flock over there since the troubles. They are shut in, at least. We still hope, yet we fear the worst. Can you not show your readers that the Chinese in America are our friends? There are two parties in China—pro-foreign and anti-foreign. These that come to America are pro-foreign. They are on our side. Thousands of their friends in China will fall for us. Many have already. If any one desires to mob the laundryman he should know he is mobbing those who stand for us at home, like the mountain whites in the great war.

July 23.

Most cordially, C. N. POND.



#### AN OUTING IN THE MUSKOKA REGION.

The following letter will explain itself:

Dear Brother Root:—Some time ago we wrote you in regard to a trip we had, briefly describing our journey through the lakes and rivers of Muskoka. You said, in reply, that if we contemplated another similar trip to let you know and you would join us if possible. We are now considering another trip to that country, and should be pleased to have you accompany us if you can possibly do so.

Briefly the advantages are as follows: The country is on a high elevation, being on the height of land between Lake Ontario and Georgian Bay. It is cool and pleasant, even in the hottest part of the summer. It is outside the limestone district, and the water is soft. The rocks show indications of iron to a great extent, and this is supposed to impart a tonic to the water. Whether there is any thing in this or not, we can not say; but it is a well-known fact that everybody who drinks it gets what the natives call the "Muskoka fever." This is nothing more serious than a great longing for meal times. Berries and fish are very

plentiful in the outlying districts. Potatoes, butter, and milk, can be had cheaply from the settlers, so that the cost of living is very slight. If you wish you can enjoy most of the benefits, and be close to the cottages, where you can get the mail daily. We prefer, however, the wild, unsettled, and, in some cases, unsurveyed, back country, where the fish and the berries are very plentiful, and the only inhabitants at present are the civilized and Christianized Indians. Of course, it is necessary to live in a tent, and travel by canoe in this part of the country. We feel sure a trip of this kind would be a great benefit to you, as everybody who spends a few weeks there improves in health and increases in weight. So noted has this become in that respect that thousands of Americans visit it every summer, as well as people from our own country. The Ontario government has established a sanatorium for consumptives, which has proved very successful.

We think of starting about the end of July, but would try to arrange the time to suit you, should you decide to accompany us. Last year the total cost for a two-weeks' holiday, including everything, canoe, tent, railway fare from Toronto, provisions, etc., was \$15.00 each. It is best to bring plenty of warm under-clothing. I myself am not considered very robust, but have never yet taken cold when on one of these trips. I usually take one decent suit of clothes for wearing on the train; two suits of underwear; a cheap strong suit of clothes in which to knock around the bush—a bicycle suit is just the thing (an old one will do); two pairs of boots, cap, etc. We take also a rubber sheet to place on the ground in case of rain, to keep off the dampness. Some take a rubber coat and a rubber life-preserver in case of accidents.

Now as regards Muskoka bill of fare, porridge, fish and berries, milk, and bread and butter form the principal part. We usually take along such things as beans, ham, bacon, biscuits, honey, tea, sugar, coffee, etc.; flour for pancakes; tapioca, rice, evaporated apples, etc.

E. GRAINGER.

Toronto, Can., July 10.

#### NOTES ON THE WAY, COMMENCING JULY 31.

Our party consists of Mr. Edwin Grainger, Mr. Thomas McKim, and myself. Mr. G. mentioned in his letter "Tommy" as one of his boys who would go with us; but I found Tommy a six-foot man, and not only an expert in the florist's business but very handy in a summer outing.

We left the train at a station called Severn, on the Severn River, a little over 100 miles north of Toronto. At this station we rented a canoe for \$3.00 per week, and proceeded to load our tent, camping outfit, etc., into said canoe, which is only about 15 feet long and 3 feet wide in the widest place. Now, it seemed to my unsophisticated ideas that our luggage alone would swamp the boat, letting alone carrying three full-grown men besides; but I tried to have faith in my two comrades, who declared they knew what they were going to do. This boat that was to be our house and home, almost, for two weeks, is almost as smooth as an egg-shell, outside and in, and weighs only about 75 lbs., and cost, I am told, about \$30.00. Well, the oars are thin light paddles only about 4 feet long. When Ed informed me we were to get down on our knees in the bottom of the boat, I tried to believe again he knew what he was about; but I think I *did* remark that *that* might do for a boy or young man (or an "oriental") to sit on his "heels;" but he said I would find it all right after a little, and so I did.

There are no seats in the canoe, or what we usually call seats; but there is a thin ash bar, a little above the bottom; and when we rest our knees on a hay cushion on the boat's bottom we sit on this cross-bar, or "thwart," our feet being back under the seat. Each rower



has one paddle. One hand is placed on the top of the oar, while it stands straight up and down in the water; the other hand grasps it near the blade, and you pull back. Then set your oar in again, and keep doing so. If I am correct this is the Indian fashion of propelling a boat. An expert will paddle on either side, and without changing, mind you, and make the boat shoot through the water *lively* too.

For quite a little time I was very fearful the boat would dip water and sink with all our valuables; and, come to think of it, I don't know but Ed and Tommy were also fearful for a time, unless I either learned to obey orders or got out and went afoot on shore. While I think of it, the shores of Severn River are about as handsome, with their grassy green borders, as any river I ever saw anywhere. For a time we saw very pretty farm-houses along the banks, and very fair crops of potatoes, barley, oats, rutabagas, etc.; but toward night our river on either side was walled with cliffs of granite rock that had resisted the wash of the water for ages.

I sat as I have described, and paddled for an hour without very much cramp in my knees; but finally I had to change my position.

Mr. G. said this was the case usually the first day, but that nature would soon adapt herself to it, as with the horse, bicycle, etc. After going about eight miles (about two hours paddling), I began to feel somewhat tired; but in undertaking to cross Sparrow Lake, with quite a wind ahead, when we got in the trough of the waves it began to look dangerous. When some water came over into the boat we were obliged to tack and pull pretty lively to keep the boat from rocking. Pretty soon I was agreeably surprised to find one could get a second wind paddling as well as with a bicycle. Sparrow Lake is three by five miles, and Severn River goes into it and then goes out again; and about two miles down from the outlet is a very pretty rapids. The Indians run down these rapids, but very few white people do. The usual way is to unload the boat and carry or drag it over a rocky foot-path. After it is in the water again, the luggage is "lugged" over and put in the boat again. This operation is called "portage," or "portaging the rapids." While looking around close to the portage, Ed uttered an exclamation of delight as he bent over a beautiful tree laden with bright scarlet berries. They were so much larger and finer than any June-berries I ever saw I hardly recognized them. Oh! but weren't they delicious? It seemed to me then and there after our brisk paddling, I never tasted *any* fruit more luscious. The foliage, too, was bright, clear, and thrifty, beyond any cultivated ones I ever saw. I spoke about getting seeds or grafts, but was told I should need the granite rocks and peculiar soil to grow berries like these in Muskoka.

We soon camped for the night, for I, at least, was tired enough, for I hadn't had a nap all day. My big woolen blanket, spread over some odoriferous green shrubs, made a bed as delicious, almost, as the berries. My

blanket is labeled "Canada Gray, size 62×82, weight 8 lbs," and price \$1.50. Mine is a double (just twice the above), and cost \$3.00. Why, that blanket alone makes a nice sleep-place almost anywhere. When I get home I believe I will try camping out with this blanket under the early-apple trees in our doorway. I firmly believe no bedroom can be ventilated to give all the advantage of sleeping in the open air.

Very early in the morning we tried our new fishing-tackle. I caught the first fish. It was my favorite black bass, and I got it almost as soon as I threw in. Ed and Tommy soon followed with much larger fish, and all black bass. We pulled them out almost as fast as we threw in, and soon I started over the bank for the tent, for more bait; but before I knew it the ground was literally carpeted with *wintergreens*—the brightest and prettiest and most toothsome I ever tasted, even in childhood.

Yesterday some sound gave me a strange thrill. Almost before I could analyze it Ed exclaimed, "Oh! the sound of that 'cowbell'! how it brings back old memories!" Well, these wintergreens made me feel like a boy again. A little further, and the ground was blue, almost, with huckleberries. Can you wonder that I overheard Tommy say, pretty soon, "I guess I had better get that bait"?

Well, out here in the wilderness everybody does just as he pleases. I had some potatoes roasted in the ashes, with a black bass roasted in the same way, and I ate "charcoal and all," even if the rest did look surprised. Tommy *would* keep spilling honey on the dining-room floor (leaves and rotten logs), and Ed *would* be so indecorous as to toss the fishbones over his shoulder.

We don't even have to put away the things; and, unless it rains, we don't even put things in the tent. Campers go off all day, or longer, and leave valuable articles all scattered around anywhere. Why, only last week a party that was to join ours went off and left the camp-fire so a high wind carried it over to their tent, and burned up all their stuff. One of the men left his money in his vest pocket, hanging up in the tent, and I actually saw the charred pocketbook, and charred bank notes. It is the rule all over Muskoka to hold sacred the property in any camp when the owners are away. Nothing is locked up, and no one has ever heard of any thing being stolen. The Indians often come around and examine every thing, for they are very curious; but I can not hear of an Indian that ever stole any thing from a camp. Kodaks, musical instruments, and other very valuable property, are as safe, if miles from any human habitation, as locks and watch-dogs could make them.

On the second day my comrades went off and left me alone on the island the greater part of the day. Like Robinson Crusoe I was "monarch" of all, and, like him, I heard voices indicating other human beings were near. I looked through the bushes, and soon saw a merry party of boys and girls portaging around the rapids, across the bay. Toward night,

when we were fishing again, two young men came along on the opposite shore, and seemed to be critically examining the rapids, when one of them said, "Oh! we can shoot *them* all right," and pretty soon down the two came in a canoe just about like ours. It looked like boys coasting down hill, only the boat went over the rushing yielding water faster than any sled. It jumped and bounded in a way that seemed positively awful. Had it touched one of those sharp granite rocks, it would have been only an egg-shell. The boys were experts, and handled their oars with lightning like skill and rapidity. Only a little water splashed over into 'their boat.

It is quite customary for campers to take along some musical instrument. In the evening I went out in our boat alone by moonlight to learn how to run the boat straight while paddling on only one side. While I was having great fun in learning how, Ed was playing his cornet. The instrument sounds beautifully over the water, and it also lets other campers know there is somebody near. Soon we heard applause from a point across the bay, and, a little later, the two young men who went down the rapids came over for an evening visit. They are students from Buffalo; have made a special study of shooting rapids in different places. One day while my companions were away I went down the rapids near our tent to bathe my foot, for a corn was troubling me. It gave me so much relief I rolled up my pants and began wading on the rocks in the rapids. This was lots of fun, but did not satisfy me, so I stripped entire, and, holding to projecting rocks, let the surging boisterous torrent play all about me. Just at this time Ed and Tommy came suddenly around a point, their boat being carried by an extempore sail made of a piece of burlap. They were somewhat surprised to see the *invalid* of the party apparently in the midst of the rapids, as nude as he came into the world. There is something funny about this. Less than an hour before, I was shivering in the north wind, with my coat all buttoned up around my chin. Well, the same wind was blowing strong when every rag was removed, and yet I was not uncomfortable at all. After the first chill of getting under water was off, I felt like playing in the rapids an hour or two, and have felt better ever since I got such a splendid rinsing with the soft pure Muskoka water.

Ed made a cupboard out of a dry-goods box we found, with a good door to it to keep out the porcupines nights. They are the worst thieves; and Tommy made a beautiful oven one day when Ed and I were out after bread. I said there were no neighbors; but one evening Ed declared he heard the voice of a calf across the woods in a certain direction, and we went on an exploring voyage. We ran up a creek with our boat, until we came to a portage so long and steep (over a hill) that I couldn't carry my end of the boat; but I found a trail, and we pushed ahead exploring for a mile or more, when we found cattle-tracks. After another mile we found fenced fields, and crops and house and barn. Oh how good it

seemed to see these evidences of civilization, and "home," even after only a few days in the wilderness! The woods around here are so dense one can scarcely make a mile an hour without a trail. We found red raspberries, huckleberries, and some blackberries, with wild flowers in great profusion. As Ed is quite an extensive florist he could name almost every plant, even in the woods, at a glance. The father and mother were both absent; but the children sold us a loaf of bread for a dime. Oh! but wasn't that bread *good* after our long walk through the woods? The wild red raspberries are the most luscious, or it seemed so that day, of any fruit in the world, as they melt in one's mouth.

After catching more bass, and teaming around all day, the sparkling moonbeams looked so entrancing on the waters of the lake that I took the boat and paddled out in the middle of the water; and while I was out there busy trying to learn the trick of handling the sail in the light breeze that sprang up, I heard a voice from the camp:

"Look here, young man! haven't you had almost exercise enough for one day? Sixty years is pretty well along to be playing 'boy' toward ten o'clock at night as you are doing."

To tell the truth, I had *four* meals yesterday. I was out rowing before sunrise, and got hungry, and took a lunch before the boys were up; then I ate a pretty good breakfast with them, had a big dinner after fishing, and a grand supper after we went after the bread.

Oh! I must tell you about our sail that just makes our boat "hum" when the wind is right. It is only a strip of burlap that Ed says cost just five cents. This is tacked on a stick about a yard long, and hung on a pole stuck in the bow of the boat. Now take one of the lower corners in each hand, and let the cloth bag out over the bow. With a brisk wind, and some one to steer, it will make the boat just plow the water.



Our friends are perhaps aware that for years my constant prayer to the great Father above has been for direction in this matter of health. The great God who created us in his own image certainly has some great, good, and wise intentions for us in this very matter of regaining and preserving health; and although I have often wondered why we were not told more specifically what we should and should not do, I have never lost faith in God. I am sure he has good and wise reasons for leaving us so much, as it seems, in the dark. I have had faith to believe that I should live to see some great progress made in the treatment of disease. Well, during the last two weeks my prayer has been, at least to some extent, answered. When I left home I was hardly fit to start out on a trip. Unless I was exceedingly careful what I ate, my old trouble was very



persistent; but in just one short week I regained a degree of health that I hardly ever felt before. My digestion became almost perfect; every ache and pain was gone; catarrh, neuralgia, rheumatism, susceptibility to draft, faintness before mealtime, lassitude, and a tired feeling, had all vanished, and I was a boy again, with boyish appetites, boyish exuberance of spirits, and strength. Now, I do not know just what brought it about; but I will try to describe it for the benefit of others.

In the first place, I was entirely outdoors. For a whole week I did not go inside of any building. When I was tired I lay down in my blanket on the ground, with my face toward the breeze as it came off across the waters, and slept all I wanted to. For a diet we had fish, potatoes roasted in the coals, and berries picked in the swamps and on the hills. I have told you how I learned to paddle an Indian canoe; and I was rejoiced to find that I could reach a "second wind" in paddling a boat just as well as in riding a bicycle. The paddling of the boat gave me exercise through my arms and across my chest that I did not get on the wheel; and all day long I had plenty of time to remember the repeated injunction to fill the lungs clear full of air. I did this again and again, and enjoyed it. Water was so handy that the most of us took a bath every day, and sometimes twice a day. As we were away out in the wilderness we wore but very little clothing, went bareheaded, if we felt inclined to, let the sun strike not only our arms and chests, but we prolonged the bathing time so as to let the sun strike the whole body. Of course, we got tanned and sunburnt; but what was the odds if we got health?

When my comrades were cooking such quantities of oatmeal porridge and other things, I remonstrated because I thought it would spoil before we could all consume it; but they laughingly informed me that things did not "spoil" when out camping. At first I wondered that anybody could eat so much and not be made sick; but after about three days I ate almost as much as any of them, and was not sick either. Again, they made coffee enough for a dozen the way people ordinarily drink coffee. Of course, the coffee was weak; and when I saw my companions drink cupful after cupful, I spoke about so much liquid hindering digestion; but they laughed at me, and pretty soon I too could drink cupful after cupful. In fact, with the amount of food that we ate it seemed as if Nature called for great lots of drink. To my surprise I did not have a headache, nor any indigestion, nor any thing disagreeable. I just felt strong and well, and I certainly have never relished any food in my life as I did in those days. I should certainly have pronounced the potatoes we had in that bag the finest variety for table use I have ever found in the world. Not even the Freemans could compare with them. The boys said they got them at a grocery, and their impression was they were the Early Rose. They were not only dry and mealy, but the flavor was like that of

a roasted chestnut; in fact, it was exquisite. By the way, I am going to get a few of those *same* potatoes, if I can, and see if I can grow some that will taste like those we had in camp. We boiled them with the skins on, then poured the water off, and shook them, holding the pail they were boiled in over the fire meanwhile. Like every thing else the bread was certainly the nicest in the world, especially after I had tramped through the bushes, over rocks and hills, about two miles, to find a place where I could buy a loaf of bread. The good woman felt much troubled because the only loaf she had to spare was scorched in baking. She was going to cut off the burnt part, but I begged her not to, telling her that I especially liked bread baked brown or black; then when the boys felt bad because they had overcooked some of the food, I told them I always *liked* things overdone. In cooking some beans, Mr. G. felt bad because he got in so much water that it was bean porridge; but I told him *that* was all right—that I liked bean porridge with lots of water in it; and I told the truth too. The dinner, made of some of that bean soup, bread and butter, the potatoes I have been telling you about, and fried black bass, made the finest dinner I ever ate. Why, it seemed as if I could eat all the afternoon without being satisfied, and I thanked God for such an appetite too, at every mouthful.

Some of you may suggest that I am advising people to make gluttons of themselves. There is another expression referring to swine, but if you will excuse me I will not use it here; but I wish to assure you we were doing nothing of the kind. We came out into the wilderness to get health. We had been having brisk exercise, rowing boats, chopping wood, building fireplaces, rigging up a sail for our boat, and all these things, and were downright hungry. After our big repast we took a nap if we felt inclined, then took exercise of some sort. We had pure air; and, by the way, the air in those regions is more or less scented from the pines and other resinous trees that cover the rocky hills and rocky islands. This resinous air, it is said, has a beneficial effect on the health. If you but think of it you will recognize that we were but getting back to the days of our forefathers. We were out in the wilderness under the shade of the trees. We were Nature's children; and I am firmly persuaded the answer to my prayer came through this experience that I have been giving you. It is not more *druggists* we need, and it is not more *doctors* we need, unless it be the kind of doctors that tell their patients to go away from civilization, and live in the open air.

Am I alone in this discovery of mine? Why, bless your heart, no. Monday afternoon, Aug. 6, by the advice of my two friends I took the steamer trip from Gravenhurst up through Lake Muskoka, Lake Joseph, and Lake Rousseau. The steamer makes its trips daily, stopping at innumerable islands, or wherever a flag is run up announcing that there are passengers waiting. Well, these islands at this season of the year are pretty well peopled with visitors from all over the United States and

Canada, who go there to seek health. The buildings are all summer houses, with great numbers of porches, and hammocks strung out under the trees. People who can afford it, own these cottages and spend the summer months there. They wear the lightest kind of summer clothing, paddle about in boats, play in the water, catch fish, and get rest and recreation. I am just now reminded to say that, during my week in the wilderness, I did not see a daily paper. In fact, I did not get a paper of any kind. When I began to get a little lost for something to read, Mr. G. gave me a large book describing and picturing the wild flowers of Ontario. This book made my rambles over the hills and through the swamps doubly interesting, for I found almost all the greenhouse plants here in their wild state. When it comes to berries, we find June-berries, huckleberries (different varieties), red and black raspberries, blackberries, gooseberries, and even currants, growing wild in the woods. Well, these islands, scattered all through these beautiful soft-water lakes, are covered with evergreens, pines, hemlocks, spruces, and even balsams. Thousands upon thousands of the residents of cities have been making just such a discovery as I have made. They throw off business cares, stop using their brains, cultivate their muscles, and "turn Injun." The native Indians developed muscle and nothing else. The modern American is getting a good way toward developing brain, and forgetting the body.

Now, I am not going so far as some of our modern doctors who say it does not make any difference what ails you, "just come to me and take my medicine, and you will be all right;" but I can truthfully say this: No matter what ails you, you will certainly get great benefit by living outdoors as much as possible. If you can get near a body of water, where you can get the cooling breezes from it, and bathe daily, or twice a day, in pure soft water in unlimited quantities, all the better. Confine yourself for a few days to the work of eating and drinking and sleeping—let every thing else go. Of course, you want some occupation.

Just a word in regard to diet. It does seem a cruel thing to torture the worms and poor fish; and I could make an eloquent appeal for a vegetarian diet. But many people can not stand such a diet. I do not believe we can *learn* to stand it, safely. Just now I would place fresh fish at the head of the meat diets. Our Savior, on at least three occasions, provided fish for the hungry people, and, strangely enough, one of the last things recorded of him was that he ate a piece of broiled fish and some honey; and I can not believe that he made a mistake or that he would be better pleased to have us vegetarians. By the way, I learned to eat honey, with the rest of the boys, with my fish and bread, and that, too, without disturbance to my digestion.

Monday night we arrived at the great hotel at Port Colburn. While it has rooms for over a hundred guests, at the time we were there every room was taken, and they were obliged to put up with cots. I would have gladly

taken my blanket, and slept out on the ground, but there were so many stylish people all around I feared it might not be just according to etiquette.

The water in all these lakes is almost as soft as rain water. It is clear and pure; but the number of floating logs, in consequence of the great lumber trade, has given it a rather dark color. It has been suggested that pine roots from the islands may have given it a little color, and, perhaps, in some localities, taste.

The question will be asked, "Are not other pure-water lakes as good as Muskoka, Georgian Bay, Lake Superior, and other northern regions?" No doubt any large body of water tends to cool the air and make it wholesome; but I think the northern regions are greatly preferable because they are cooler. The water never smells bad, and leaves but little or no sediment on the stones. At first I thought I could not stand it to bathe in water so cold; but I was agreeably surprised to find in a little time my body became so accustomed to the cool water that I could bear it all over about as well as we can bear cold water on the hands and face. The invigorating atmosphere certainly must have much to do with it.

I am not through with my explorations in this direction in search of health; and I shall, therefore, have more to tell you about it.

In regard to expense, the railroad companies and boat lines have made exceedingly low rates of travel to favor excursions of this kind. When it comes to daily food, you can buy every thing in Canada as cheaply as anywhere else—oftentimes cheaper. We got big loaves of beautiful bread for a dime. Garden stuff of all sorts is very cheap. If you will get up and dust, your meat food need not cost you any thing, because there are fish wherever there is water. We got all the bass we needed for every meal, and toward dusk we got immense catfish that we threw back into the water, as we had no use for them. When it comes to lodging, if you can scrape up some kind of tent to shelter you when it rains, and a thick woollen blanket to keep you warm, the lodging need not cost you any thing. We met two students from Buffalo, who said they lived cheaper up there in the islands than they could anywhere else. That was one reason for taking a long vacation. Of course, one can not earn any thing unless he goes as guide, or paddles a canoe, or something of that sort.

Now, I am sure, dear friends, that most of you can profit more or less from these suggestions I have given you; and it will be cheaper in many ways than to take stuff that you get at the drugstores, and far cheaper than to employ expensive doctors. Go back to Nature, and let *her* be your physician.

#### MAYWOOD, ILL., NOT AN INTEMPERATE TOWN.

*Mr. A. I. Root:*—Will you please refer to page 586, GLEANINGS for July 15? As a resident of Maywood I wish, in a friendly way, to take exceptions to the remarks you make in that article about our village. I have lived in Maywood for the past twelve years, and for all that time we have maintained a strict prohibition district. There is not now, and never has been, a saloon within the corporate limits of Maywood.



Please do not hold the people of Maywood responsible for conditions in territory entirely beyond their jurisdiction. When you "turned to go east about a mile," you left Maywood before you crossed the bridge over the Des Plaines River; and when you crossed that bridge you entered Harlem, a "wide-open" district with its own village government. If you will please set this matter right in your next issue you will retain the friendship of the bee-keeping portion of the inhabitants of Maywood, a village which does not build its roads with profits from the beer business.

Maywood, Ill., Aug. 7.

G. S. CREGO.

Most gladly, friend C., do we give place to your kind letter of correction. As the locality was pretty well settled up along the street-car line I did not exactly understand where Maywood ended and something else commenced, and I did not intend to convey the idea that this locality I struck belonged to Maywood. If I left that impression I heartily beg pardon. But that place called Harlem deserves, I am sure, all the criticism I made. If anybody thinks I exaggerated, let him take a trip down that way, and go into the saloons there, as thick as they can be planted, for quite a distance. Let him interview the people in charge, and see if I reflected too severely on their general intelligence.

#### PROGRAM OF THE THIRTY-FIRST ANNUAL CONVENTION OF THE NATIONAL BEE-KEEPERS' ASSOCIATION.

To be Held at Chicago, Illinois, Tuesday, Wednesday, and Thursday, August 28, 29, and 30, 1900; Sessions to be Held in Wellington Hall, 70 No. Clark Street.

##### TUESDAY EVENING.

Call to order at 7 o'clock.

Song, - - - Dr. C. C. Miller, Marengo, Ill.  
"How to Sell Honey," S. A. Niver, Auburn, N. Y.  
"Bee-keeping in the City," L. Kreutzinger, Chicago.  
Question-box.

##### WEDNESDAY MORNING.—9-30.

Song.  
Invocation.  
President's Address, - E. R. Root, Medina, O.  
"Queen-Rearing by the Doolittle Method," - - -  
- - - Mrs. H. C. Acklin, St. Paul, Minn.  
Question-box.

##### WEDNESDAY AFTERNOON.—1-30.

Song.  
"Bee-keepers' Rights and Their Protection by Law," - Herman F. Moore, Park Ridge, Ill.  
"Trials of the Commission Man," - - -  
- - - R. A. Burnett, Chicago, Ill.  
Question-box.

##### WEDNESDAY EVENING.—7-30.

"Breeding for Longer-tongued Bees," by J. M. Rankin, of the Michigan Experiment Station.  
"Bee-keepers I have Met and Apiaries I have Visited," by E. R. Root, assisted by Dr. C. C. Miller, Dr. A. B. Mason, E. T. Abbott, and others.  
Illustrated by a stereopticon.

##### THURSDAY MORNING.—9-30.

Song.  
Invocation.  
"Various forms of Disease Among Bees, Cause and Cure," Dr. Wm. R. Howard, Ft. Worth, Tex.  
Report of General Manager, - - -  
Hon. Eugene Secor, Forest City, Ia.  
"Pure Food Legislation," - - -  
Rev. E. T. Abbott, St. Joseph, Mo.  
Question-box.

##### THURSDAY AFTERNOON.—1-30

Song.  
"Chemistry of Honey, and How to Detect Its Adulteration," by Thomas Wm. Cowan, Pacific Grove, California.  
"How to Ship Honey to Market, and in What Kind of Packages," - Geo. W. York, Chicago, Ill.  
Question-box.

##### THURSDAY EVENING.

"Co-operative Organization Among Bee-keepers," - - - R. C. Aikin, Loveland, Col.  
"My Trip Through Wisconsin and Minnesota," W. Z. Hutchinson, Flint, Mich. Illustrated by a stereopticon.  
Unfinished business.

One prominent feature of the next convention will be the stereopticon work. Messrs. Root and Hutchinson, with a powerful stereopticon, will project upon the screen some photos they have taken of apiaries they have visited in various portions of the United States. The convention will be held in Wellington Hall, 70 North Clark St., about a block and a half from the office of the *American Bee Journal* and about five blocks directly north of the Court-house. The hotels at which delegates may secure lodging is the Revere House, about half a block from the convention hall. The rate for lodging will be 50 cts. per night, and the proprietor has assured Mr. York that good beds are provided, but that several will have to occupy the same room. But when any one desires a room with a single bed, the charge will be \$2.00 per night. If two men wish to take a single room in that way they can do it, sharing the expense between them. G. A. R. people will have to pay 75 cts. per night for a single bed, so bee-keepers are specially favored at 50 cts. The hotel is almost within a stone's throw of the convention hall, and right near the hall are first-class restaurants where meals can be secured at reasonable rates.

Chicago is a central point, and there will undoubtedly be a large attendance; and, considering the attractions, it is earnestly hoped that bee-keepers will turn out in good strong force.

E. R. Root, President.

Dr. A. B. Mason, Secretary.

Just as we go to press, Dr. Mason wires as follows:  
All roads in the United States and Canada, one cent a mile each way to Chicago. A. B. MASON.  
Toledo, O., Aug. 13.

##### INDIA RELIEF FUND.

Geo. Shackelford, Okalona, Ark.....	1 04
Mrs. Warner, Medina, O.....	1 00
Friend.....	1 00
Sarah Fisher, Randolph, O.....	1 00
J. Mattson, Atwater, O.....	2 00
Lizzie Hurley, Mt. Carrol, Ill.....	1 00
Seward Steffy, Stewartsville, O.....	1 00
Cora M. Howard, ".....	50
O. Jane Gardner, ".....	25
C. S. Jacobs, ".....	25
Jacob Tanner, ".....	25
Mary Tanner, ".....	25
Ada McDonald, ".....	15
Wallace Kasler, ".....	25
Wash Kasler, ".....	50
Amos Soon, ".....	50
Mort Roberts, ".....	10
Kellar Baker, ".....	25
Mae Steffy, ".....	25
J. Steffy, ".....	25
E. W. Koon, ".....	25
Silas Johnson, Graysville, W. Va.....	1 00
R. C. Clary, Ft. Morgan, Colo.....	1 00
Frank Ellis, Monroe, Wis.....	5 00
A Friend.....	5 00

##### BEE-KEEPERS AS A CLASS, ETC.

I find bee-people the nicest folks I have ever met. I have yet to come across one who does not acknowledge God; and I met with a great many bee-men in England, including the genial editor of the *British Bee Journal*; and the warmth and geniality of all are very refreshing. Then as to yourself, though I have never seen you, yet one feels he knows you well. For years "Our Homes" in each number has been about the first thing we read; and if all the preachers gave such common-sense talks to the people there would not be the infidelity and skepticism there is at the present day. You aim straight at the mark, and hit. If I fail in bee-keeping my wife would not let me do without your paper, for your rambles as well as sermons are good—in fact, all is good; and when I come home with mail, and they see GLEANINGS, it is "Oh! let me see first what Bro. Root has to say now."

Lucknow, Ont., Can.

G. W. CATER.



THAT WHEAT WHICH DID NOT WINTER-KILL,  
AND WAS NOT AFFECTED BY THE FLY.

Our yield was pretty nearly 40 bushels to the acre, and nearly two tons of straw to the acre. The rye straw brought \$5.00 a ton, baled, and the wheat straw \$4.50. I received for the wheat 81 cts. per bushel, and 62 for the rye. You may remember that I ascribed my success to underdraining, and enriching the ground by turning under clover—that is, the clover was turned under for potatoes, and the wheat was grown after the potatoes. It has been suggested, however, that the immunity I enjoyed from the fly might be owing to the fact that there is no wheat grown very near my own. Many farmers called it the best wheat in the county, and I did not see any that was better on my wheel-rides throughout the State. The variety was the Fultz. The seed was furnished me by a dealer in seed wheat. The crop was grown for him.

#### HOW TO KEEP NEW POTATOES FOR TABLE USE, ETC.

*Mr. A. I. Root:*—Will you kindly inform me in regard to the best methods for keeping new Irish potatoes—that is, those dug in July and August?

St. Elizabeth, D. C.

W. W. CONNER.

If you are not needing the ground where the potatoes grew, I do not believe there is any better way than to dig them just as fast as you use them, and no faster. If the ground is cracked, or any of the potatoes are exposed, shovel dirt over them to keep the sun from greening them. If, however, you want to use the ground, put them in the coolest, dampest, and darkest cellar. If you have no cellar, put them in some sort of box or room that can be opened cool nights and closed and shaded perfectly during hot days. They must be kept damp to keep them from wilting, and they must be kept in the dark to keep them from getting green; and they must be kept as cool as possible to prevent them from drying up by the heat. Almost any cellar will do if you put the potatoes right on the ground, and cover them with something so they will be perfectly in the dark; then open the cellar cool nights, and close it during the daytime and during hot nights.

#### WHAT TO PLANT IN THE MIDDLE OF AUGUST.

Wax beans will still be all right, also all of the onion-sets mentioned in our July 15th issue. Turnips will probably get large enough for table use; in fact, they are very much better where they are not too large. Scarlet clover will be all right if we have rain; buckwheat will make honey, even if it does not ripen the grain. For prices of all the above see page 554 of our July 15th issue. This is just about the right time to sow the new forage-plant, dwarf Essex rape. Here is what Wm. Henry Maule says about it in his advertisement:

A forage plant of the very highest value. It makes quick and large growth (about three feet) smothering out all weeds and objectionable grasses. It may also be plowed under as green manure. In six weeks from time of sowing, sheep, hogs, or cattle can be turned on it. An acre of rape will pasture 12 to 15 sheep six to eight weeks. In the North it can be sown any time from May to September, but in the South it should not be sown until September or October for fall pasturage. It is perfectly hardy, withstanding drouth, and a sure cropper on all kinds of soil. Sow 5 lbs. to the acre broadcast or 3 lbs. in drills.

I do not know but the above is rather strong, although I have seen it do all he claims, under favorable conditions. The demand for the seed seems to increase every year.

#### MULCHING TOMATOES WITH STRAW.

Yes, I have practiced mulching tomatoes with straw for years, for two reasons—to keep the fruit clean, and to keep the plants from drying up in the hot summer weather. A neighbor of mine says she does the same. I use straw or grass cut out of my apiary. I place it around the vines when they begin to fall over. Trellising tomatoes is recommended to keep the fruit from rotting. Several years ago, when tomatoes rotted so badly all over the country, I had two rows, side by side. The one, I trellised; the other lay on the ground. I do not remember now whether I put straw under the vines on the ground that year or not; but this I do remember distinctly, that those on the trellis rotted just as badly as those on the ground, and I have had them rot, too, when tied to stakes. Neither of these methods was a preventive with me. Nothing suits me as well as the straw mulch.

Macedon, N. Y., June 23.

A. JENNIE WILSON.

## Humbugs and Swindles.

We have just received a press bulletin from the Ohio Experiment Station, which reads as follows:

#### A WARNING AGAINST FRAUD.

The Ohio Experiment Station has just received the following letter from Marion County:

"There is a company of men canvassing this territory for fruit-trees. They are putting in what they call a 'model orchard.' They claim to be working directly for and in the interest of your station, which gives them quite a leverage with a great many farmers."

To this letter we reply that this Station sells no fruit-trees of any description; and all persons who claim to represent it in the manner indicated are swindlers, and should be arrested for obtaining money under false pretenses.

Ohio Agricultural Experiment Station,  
CHAS. E. THORNE, Director.

This is not the first time that unscrupulous rascals have used the names of different experiment stations to further their frauds. Will everybody who gets track of this thing assist in having them arrested, and punished to the full extent of the law?



#### HONEY.

Do not forget that we are in the market for honey. Let us know what you have to offer.

#### DISPLAY CARDS.

Did you see our announcement of these in last issue? Ten cards, 6 1/4 x 8 1/2, just right to put in every store where your honey is sold, sent postpaid for 10c. Not less than ten furnished.



## SHIPPING-CASES.

Do not forget that you will hurt the sale of your honey by using old or untidy cases. Get our no-drip cases, and secure the best prices for your honey.

## WINTER CASES.

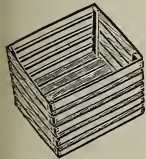
It is none too early to begin your preparations for winter. Have you ever thought how many pounds of honey are required extra because you do not provide suitable apartments for your bees? Why not try our winter-cases, or some of our dove-tailed chaff hives? If you have mislaid our catalog, send for another and see how little it will cost to put your bees up in proper shape.

## SQUARE CANS.

We have on hand a good stock of both one and five gallon square cans at the following prices:

No. in a box.	Capacity of each can in gallons,	in honey.	Price of 1 box, 10 bxs.	Wt. of 1 box.
1	5-gal. can boxed	60 lbs.	\$ 50 \$ 4 60	10 lbs.
2	5-gal. "	60 "	85 8 00	15 "
10	1-gal. "	12 "	1 60 15 00	20 "
12	1-gal. "	6 "	1 60 15 00	20 "
24	1-gal. "	3 "	2 60 25 00	25 "
1	1-gal. "	12 "	13 00 120 00	110 "
1	1-gal. "	6 "	11 00 100 00	80 "
1	1-gal. "	3 "	9 00 80 00	60 "

## BUSHEL BOXES.



Owing to advance in price of lumber we were obliged to advance our price on bushel boxes some time ago to the following:

All slatted bushel-box, per crate of 15, \$2.10.

Slatted bushel box, per crate of 12 \$1.80.

Galvanized bound bushel box, crate of 12, \$2.40. Price each, nailed, 18, 20, and 25 cts. respectively.

Nothing handier for potatoes, apples, and many other things than these boxes, and the cost is very little for any thing so useful.

## CALIFORNIA MOUNTAIN SAGE.

We have now a new supply of fresh seed of both black and white sage, received direct from California, which we shall be glad to mail in five-cent packages, or at 35 cts. per ounce. It is easy to grow, and bears a great profusion of very pretty flowers, and succeeds nicely with garden culture. While there are but few localities where it will probably pay to grow the plant especially for honey, it is worth something as a curiosity to have a plant growing in your garden that produces the finest and whitest honey in the world. The friends who have learned to grow flowers in the window or in the greenhouse will have no trouble in getting a nice lot of plants from five cents' worth of seed.

## A MISTAKE OF ONLY \$100 IN THE DAY'S RECEIPTS.

In GLEANINGS of July 15, a mistake of \$100 was made in the letter friend Terry sent you—only \$10 a day instead of \$110. C. VANDERBILT.

Alloway, N. Y., July 20.

Friend V., there was some difficulty in making out the figures; but as we did not know how big a strawberry-farm you had, we did not know but the larger figure was right. But even \$10 a day is a good beginning.

**Best on Earth!** A queen I had from you lived 3 yrs., and was the best queen I ever had, and did not swarm.—E. W. Brown, Morton Park, Ill., July 30, 1900.

Three select breeding queens, \$2.75.

Henry Alley, Wenham, Mass.

## Closing Out, 200 Queens.

In order to close out, till Sept. 15th I will sell my queens, golden and leather-colored, at bottom prices: 1 queen, 50 cts.; 3 for \$1.25; per dozen, \$5.25. Tested, \$1.00. Breeding queens, \$2.50 to \$5.00. Send in your orders promptly. G. RUTZAHN, Menallen, Pa.

## The Influence of Locality.

This matter of locality and the part that it plays in bee-keeping is really becoming a chestnut; but it needs cracking just the same. Anything in the nature of a paradox, or that appears mysterious, is at once charged up to locality. In many instances the inference is correct. To illustrate: Holy Land bees are not liked here at the North. They are great breeders. So long as there is honey in the hive they will keep on rearing brood. We don't wish any such characteristics here in the North. When the harvest is over we wish breeding to stop. We don't care to rear a horde of useless consumers. In the South, in Cuba, for instance, the harvest comes in the winter, or what corresponds to our winter, and it is very desirable that the colonies be populous at that season of the year. To accomplish this, Holy Land bees exactly fill the bill. Thus, you see, in one locality one strain of bees is desirable, but another is not. In some other locality the conditions are reversed. Again, here at the North, where our main harvest comes early and is of short duration, small brood-nests are desirable. In the South, or where the harvest is prolonged through the whole summer, large brood-nests find favor. Then there is the wintering problem that is ever with us here at the North. In the South, chaff hives, becellars, and the like, are of no interest whatever. California and Colorado have conditions and sources of honey-flow that are entirely different from those of Michigan and Canada. The fundamental principles of bee-keeping are ever the same, but localities differ; they differ so much that a bee-keeper going from Michigan to Cuba, or to Texas, and attempting to carry on bee-keeping as he has done at his old home, would be sadly lost.

In reading our bee-journals, and attempting to profit by the advice they contain, we should ever have in mind this matter of locality. The experience and views and advice of Mr. Doolittle may be all right for New York, Ontario, and Michigan, and some of it may be all right for Florida or California, but not all of it.

Then there is another point: The more thoroughly a man understands his own locality, the greater his chance for success. He must know at exactly what time in the season to look for the different honey-flows. In may seem incredible, but I have had bee-keepers come to me to buy sections, come in great haste, and a heart filled with enthusiasm; the bees were "just piling in the honey" and the owners had only discovered it and the basswood honey harvest was coming to a close. These men did not even know where the honey was coming from. Of course, this is an extreme case, but not so very extreme as some of you may think. A man ought to know what strain of bees to keep, what size and kind of hive and fixtures to use, when to take his bees from the cellar, if he winters in the cellar, whether to protect them on the summer stands when he takes them out, and, if so, in what manner, whether to feed in the spring, whether to unite before the harvest, whether to shade his hives and how, when to put on the sections, and so on through the whole season, he should know, as nearly as it is possible for him to learn, exactly what is best adapted to his particular locality. In reading articles in the bee-journals he should always ask himself: "Does this apply to my locality?"

To the one who will send me the best article on this subject, between now and September 1, I will send \$5 00 in cash. To the writer of any article, not the prize article, that I think well enough of to publish, I will send a queen of the Superior Stock and the Review for one year.

W. Z. HUTCHINSON, Flint, Mich.

## Say! Improve Your Bees.

Did you know that we are rearing golden Italian queens from our famous \$100 breeder Victoria? Stock unsurpassed for beauty, gentleness, and honey-gathering. Queens very prolific; bees do not crowd brood-nest with honey; swarm very little, and enter supers readily. Also 3-banded queens from our fine breeders, Jewell and Beautv. Stock hardest, gentlest, and best strain in the world. Prices, either race for the rest of the year, unit, 75c; 6 for \$4.25; select warranted, 25c extra. Tested, \$1.25. Holy Lands same price. Special discount in quantities. Circular free.

O. P. HYDE & SON, Hutto Texas.

We give free s.l. test. queen for every \$10, and a fine breeder for every \$25 worth of orders at circular prices.

## H. G. Quirin, the Queen-breeder,

is, as usual, again on hand  
with his improved strain of

## Golden Italian Queens.

Our largest orders come from old customers, which proves that our queens give satisfaction. We have 12 years' experience breeding queens; no bee-disease in our locality; queens are sent promptly by return mail, with safe delivery guaranteed.

PRICE OF QUEENS AFTER JULY 1:

	1	6	12
Warranted.....	\$ .50	\$ 2.75	\$ 5.00
Selected, warranted.....	.75	4.00	7.00
Tested.....	1.00	5.00	9.00
Select tested.....	1.50	8.00	
Extra selected tested—the best that money can buy.....	3.00		

ADDRESS ALL ORDERS TO

H. G. QUIRIN, Parkertown Erie Cou. ty, Ohio.  
Money-order office, Bellevue, O.

## MORE STRONG TESTIMONY

in Favor of

## Moore's Strain of Italians

On page 436 of GLEANINGS for June 1, 1900, "Uncle Lisha" says:

"I was talking not long ago with one of the most enterprising bee-keepers of our State, who has hundreds of colonies. He told how he had bought queens from a number of queen-breeders. Some had been quite worthless, while others were valuable. From one breeder he thought he had the best working bees in his yards." He had introduced several of these queens, which had proved the most industrious bees he had."

"How about swarming?" I inquired.

"He said he had never if I remember rightly, had a hive of these bees swarm."

I am happy to state that I am the breeder to whom "Uncle Lisha" refers in the above extract, as I have just received a letter from him to that effect. Such disinterested testimony as this is very encouraging to me indeed, and is certainly very convincing. It has taken years of patient labor in selecting and crossing to produce such stock as this.

Warranted queens, 75c each; 6, \$4.00; 12, \$7.50. Select warranted, \$1.00 each; 6, \$5.00; 12, \$9.00. Strong 3 for me nucleus, with warranted queen, \$2.50. Safe arrival and satisfaction guaranteed. Circular free.

I am filling all orders by return mail, and shall probably be able to do so till the close of the season.

J. P. Moore, Lock box 1, Morgan, Pend. Co., Ky.

## The Modern Farmer and Busy Bee.

Emerson Taylor Abbott, Editor.

A live, up-to-date Farm Journal with a General Farm Department, Dairy, Horticulture, Live-stock, Poultry, Bees, Home and General News. The Editor has had practical experience in every department of farm work. To introduce the paper, it will be sent to New subscribers one year for 25c. Sample copies free. Best Advertising Medium in the Central West. Clubbed with *Gleanings* for \$1.00.

ADDRESS

Modern Farmer, St. Joseph, Mo.

## Our Bees are Busy

now carrying loads and loads of pollen and sweets from the flowers to raise the thousands of new bees for the coming honey crops. We are busy with the orders for Hives, Sections, Foundation, Comb to enable the bees to shape themselves over a surface for rapid work.

Many implements and fixtures to help the people to handle the bees conveniently and with profit.

Drop us a postal card and we will send a catalog of the best and latest Bee hives, etc.; contains also instructions for successful managing of bees for profit.

: : ROOT'S : :

## ABC OF BEE CULTURE

If interested in buying groceries, ask for our wholesale list, and it will also be mailed.

We have sold several carloads of Root's hives and supplies, and can make you the best prices for quantity ordered besides a saving of freight in points adjacent to Evansville.

ADDRESS

Vickery Bros., Evansville, Ind.

WHOLESALE GROCERS.

### Marquette, on Lake Superior,

is one of the most charming summer resorts reached via the Chicago, Milwaukee & St. Paul Railway.

Its healthful location, beautiful scenery, good hotels, and complete immunity from hay fever, make a summer outing at Marquette, Mich., very attractive from the standpoint of health, rest, and comfort.

For a copy of "The Lake Superior Country," containing a description of Marquette and the copper country, address, with four (4) cents in stamps to pay postage, Geo. H. Heafford, General Passenger Agent, Chicago, Ill.

## Root's Goods in Kansas.

Carl F. Buck, Augusta, Butler County, Kansas.

### D. COOLEY,

Dealer in BEE-KEEPERS' SUPPLIES,  
KENDALL, MICH.

Root's Goods at Root's Prices. Catalog free.

**Albino Queens.** If you want the most prolific queens; if you want the gentlest bees; if you want the best honey-gatherers you ever saw, try my Albino queens by return mail. Untested, 75c; warranted, \$1; tested, \$1.25.  
J. D. GIVENS, Lisbon, Texas.

**QUEENS** of the Doolittle Case strain. These bees are industrious, prolific, and gentle. Try them. Untested, 50 c ts. each; \$5.00 per doz.; select, 75 c ts.; young tested, \$1.00, or 3 for \$2.50; select tested, \$2.00.

GEO. VANDE VORD, Daytona, Fla.

**WANTED.**—To sell Belgian hares for breeding meat rabbits. Send for prices.  
WESLEY C. FOSTER, Boulder, Col.